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THE CANADIAN HORTICULTURIST.

PUBLISHED BY

THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

VOLUME VII.

D. W. BEADLE, EDITOR.

ST. CATHARINES, ONTARIO.

COPP, CLARK & CO.
GENERAL PRINTERS, 67 & 69 COLBORNE STREET, TORONTO.
1884.

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A. HOCHSTEIN, DEL.

ATLANTIC

THE

Canadian Horticulturist.

VOL. VII.] JANUARY, 1884. [No. 1.

THE ATLANTIC STRAWBERRY.

With a New Year's greeting to you, gentle reader, and all the usual compliments of the holiday season, the *Canadian Horticulturist* presents you with this New Year number a nicely executed colored picture of a new strawberry that is being brought prominently forward. It is the duty of a magazine like this, devoted to the interests of horticultural progress, to keep its patrons fully informed of what is going on in the fruit-growing world, and as far as possible to present the facts with regard to each new fruit or plant that is offered to the public. While recognizing this to be the duty of this monthly, and endeavoring in all fidelity to give you the truth in regard to these new things, it is nevertheless no easy matter satisfactorily to discharge this duty. To say nothing of those who, for the sake of some pecuniary gain, will intentionally magnify the good qualities and conceal the defects of their bantling, there are many, whose opportunities of observation and comparison have been limited, who think that they have something wonderfully nice, merely because they do not know that there are already in cultivation fruits of the same season far superior in every respect. These at once raise a shout of ecstasy over their new-found treasure. Again, it is so natural for most of us to think highly of that which is our own, to regard our own geese with such a partial eye that to us they have become changed into swans, so having in this way convinced ourselves, we try to impart to others the same high opinion that we ourselves entertain. Besides this, there remains yet this other fact, that soil and climate and cultivation do so modify results, that changes in these respects frequently bring about most unexpected consequences.

However, to the best of our ability, the *Canadian Horticulturist* will endeavor to give you the fullest information possible, both for and against, so that you may be able to form your own opinions intelligently. It requires time to test fully the qualities and value of new fruits, so that by the time their real value has been ascertained the charm of novelty is gone, and public attention is directed to recent comers. It is well to hold firmly to tried friendships, and by no means discard the old until the new has been well tested. True, novelty has its attractions, and it is well that it has. To this we owe

much of our enjoyment, and much of our progress, and likewise many disappointments. Could we prevent the introduction and dissemination of new things until their superiority in some essential particular over varieties already in cultivation has been fully established, much of the disappointment now experienced would be avoided. No means of doing this has yet been devised. Hence, there is nothing left us but to seek the fullest and most impartial information within reach, and select from the numerous novelties, that seem to be showered upon us thicker and faster than snow flakes in the winter's storm, those that we think most worthy of attention.

The Atlantic strawberry, of which our colored frontispiece is said to be an excellent illustration, is brought forward as having especial claims on the attention of the grower for market. These claims are based upon the alleged superior firmness of the berry which enables it to travel long distances without injury; upon its beauty, which is said to be such as to make it tempting to purchasers; upon its productiveness, and its late season of ripening, coming after the great rush of strawberries is over, and therefore commanding better prices. It is said to have perfect blossoms, which should mean that the stamens are fully developed so that sufficient pollen is produced to perfectly fertilize the seed germs, thereby insuring full development of the fruit. It is also said in its behalf that the fruit does not deteriorate as rapidly after being picked as that of most varieties, but that the keeping qualities are something remarkable. Having had its origin, like the Manchester, in a soil of sea sand, it is thought it will thrive well in sandy soil. It is not claimed for it that the flavor is of a high grade, hence those who are seeking for exquisite quality have no need to plant it. Purchasers of fruit in our markets are influenced more by appearance than quality.

The writer has not yet seen the fruit of this new strawberry. He has not even been able to arrive at a very definite opinion concerning the Bidwell, Manchester, James Vick, Old Iron Clad, Big Bob, and the like, which were new a few weeks ago, the fruit of which he has seen. The experience of you who have tried any of these in this Ontario will be gladly published in the *Canadian Horticulturist* as a valuable contribution to our knowledge, and a help in forming a just estimate of their respective values. If our readers would contribute freely of the results of their trials, whether favorable or unfavorable, they would confer a favor upon each other and help to settle definitely the value of new fruits for cultivation in this Province.

THE MISSISSIPPI VALLEY HORTICULTURAL SOCIETY

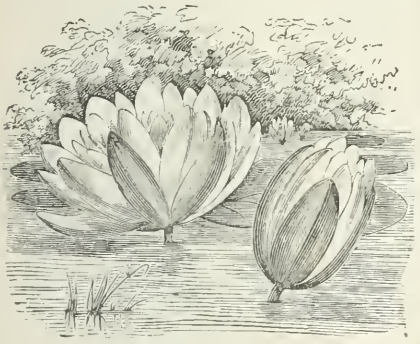
Holds its next annual meeting in Kansas City, beginning on Tuesday, the 22nd January, and continuing until the 30th. There will be a voluntary exhibition of fruits and other horticultural products. The railways from Chicago to Kansas City will return those who

paid full fare going, at one cent per mile for the return trip. Valuable papers are announced upon various horticultural subjects by some of the leading men in the science and practice of horticulture of our time. Members pay an annual fee of two dollars, and receive a copy of the transactions by mail without further expense.

THE WHITE WATER-LILY.

Nymphea odorata.

We desire to call the attention of our readers to the fact that this beautiful, sweet-scented flower, which is to be



WATER-LILY.
(*Nymphea odorata*).

found in so many of our ponds and sluggish streams, can be very easily grown in a tub or half barrel. It is only necessary to have a water-tight tub, place a little rich soil from the bottom of any shallow pond or ditch in it, say to the depth of a foot or fifteen inches, in this set a plant of the water-lily, and then fill the tub to the brim with soft water. For convenience the tub may be set in the ground with the top just about even with the surface. It will only be necessary to add a little water occasionally to supply the waste by evaporation. There is a variety of this lily that is tinged with red. If not convenient to obtain plants from the ponds, they can be procured through any of our seedsmen or nurserymen.

If we can not ornament our grounds with the showy Victoria regia, we can plant our own native species, which belongs to the same order, and in its leaf structure bears a miniature resemblance to its majestic South American relative.

Indeed we are quite too prone to think that beautiful things must come from some far-off land, and that plants which can be found growing in our own woodlands, or lakes, or streams can not be worthy of attention. There are very few things more beautiful or more deliciously scented than our native white water-lily.

COUNTY OF RENFREW FRUIT GROWERS' ASSOCIATION.

An association of the fruit-growers of Renfrew County has been formed for the purpose of collecting the information on the subject of fruit growing that lies scattered about in the experience of those who have been experimenting in fruit-growing in different parts of the county. It is expected that when these persons meet together they will be able to prepare a list of the varieties of fruit suitable for cultivation in that county which will be reliable. It is intended that this association shall be affiliated with the Ontario Fruit Growers' Association, who will publish in their Annual Report the proceedings of the Renfrew County

society. To this end they have made the membership fee to the Renfrew Association twenty-five cents per annum, and to both the Renfrew and Ontario Associations one dollar and twenty cents per annum. Those who pay the latter sum will be entitled to full privileges of membership in the Ontario Association, and receive the Annual Report, the monthly *Canadian Horticulturist* and their choice of the four premiums.

This example is worthy of imitation by the fruit-growers and horticulturists of every county. There is in each county such difference in soil, in amount of rain fall, in degrees of summer heat and winter's cold from every other county that the experience of those residing within the county can alone be a sure guide in horticultural matters. The Ontario Association would willingly publish the proceedings of each county association whose members were subscribers to its publications, and thus preserve and disseminate the information derived from the county meetings in the best possible manner.

THE RUSSIAN MULBERRY.

Professor Budd states that when in Russia he saw in the Provinces of Orel and Voronesh, bushy, low trees of the *Morus tartarica*, perhaps twenty feet high and eight inches in diameter, and in the Botanic garden at Kiev he found old specimens not over twenty-five feet high and not to exceed one foot in diameter. That if the Nebraska men have found a mulberry growing "fifty feet high, and from three to five feet in diameter," they have found something wholly unknown to the Russian foresters, or to the Botanic gardens of Northern Europe.

He says it is in truth a rapid growing small tree that bears bountiful crops of fruit, which he advises may be planted on account of its hardiness for ornament, or as a windbreak, or for fruit, but not for timber.

A NEW GOOSEBERRY.

During the past summer we received a few specimens of a new gooseberry from Stone & Wellington, of Toronto. The fruit received was of good size, oblong in form, and of a golden yellow color, and of good flavor. In a letter received from them they state that the original plant was found in the State of New York, growing wild in a decayed hickory stump, by a person who was hunting. Being pleased with the appearance of the fruit he took the trouble to return at the proper season and take up the plant. He removed it successfully, and it has been in bearing ever since.

Messrs. Stone & Wellington have now fruited this gooseberry for four years and find that it is perfectly hardy, never having shewn any sign of mildew, and each year bearing immense crops. They describe it as a remarkably strong, vigorous, upright grower, with dark green glaucous leaves which resist mildew perfectly, and remain on the plant until the end of the season; while good samples of the fruit measure an inch and three-quarters in length.

The accompanying cut, which will give a more perfect idea of its appearance than any verbal description, has been kindly furnished by Messrs. Stone & Wellington, who have given to this new berry the name of *Large Golden Prolific.*

LARGE GOLDEN PROLIFIC.

MEETING OF THE MISSISSIPPI VALLEY HORTICULTURAL SOCIETY.

(Concluded from page 268, of Vol. VI.)

The morning session of the fourth and last day was opened at ten o'clock. The invitation given by the Louisville and Nashville railway, to make an excursion as the guests of the railway to Mobile, was accepted by about one hundred of the members, and Tuesday, 27th February, was designated as the day for the excursion. After reports from several of the committees, Capt. E. Hollister, of Illinois, read a paper on markets and marketing. His advice was to study the peculiarities of the particular market as to the kinds that were popular in it, and the style of package most acceptable, then send only such fruit as you would put upon your own table, dividing it into two grades, the best, and that of fair size and quality. That which is below this should not be sent to market. Mark each package so that consignee may at once see the grade of fruit it contains. For berries he advises the use of the square quart box, for peaches and tomatoes, the one-third of a bushel box. The remainder of the session was taken up with discussions on this subject, but nothing different of importance was elicited. In the afternoon, a paper was read by Mrs. H. M. Lewis, of Wisconsin, on "Birds in horticulture." The first point made in her paper was that natural history should be taught in our schools, so that the children might at least know the correct name and the family to which each common bird belonged. The blue-bird, robin, blackbird, song sparrow, oriole, bobolink, &c., were kindly mentioned, but the English sparrow was evidently not a favorite with the lady, nor the butcher-bird, nor blue-jay. The next paper was by Mrs. D. Huntley, also of Wisconsin, on "Adorning rural homes," full of excellent suggestions and valuable thoughts. "It matters little," she said, "whether the dwelling be a mansion or a cottage: it is the taste displayed in the adornment of the grounds, the planting of trees, the care of the lawn, which indicate the culture and refinement of the owner." And again, "the educating influence of pleasant surroundings upon the minds of the young cannot be over-estimated." What shall be said of very many, yea of most of our Canadian rural homes, if these expressions are correct? What is their educational effect upon the children brought up in them, and may we not find just here the reason why so many farmers' sons and daughters are disgusted with life on the farm? And if she truly remarked, that "the outward surroundings of the homes of any people are the truest indications of the prosperity of the country and the intelligence of its inhabitants," what shall we say of ourselves when measured by this standard? How many of our rural homes have no lawn at all, hardly a tree about the house, the way to the front door through the barn yard, and if there be any garden at all, not a fruit or flower in it, but plenty of tall weeds growing in unsightly tangle. What are the attractions to the children of such a home? What must be the intelligence of the people who live in such homes? And shall such be the homes of our beautiful land? We answer in the words of this lady's paper, "hundreds of new homes are constantly springing up all over our land, and it is a question for the owner to decide whether these shall be all bleak, and bare, and desolate, with nothing to shelter or shade them, or shall they be adorned with the beauties of nature till they become ornaments to the landscape, a second Eden wherein to dwell." Yes, the owners must decide it, and gentle

reader, countryman, Canadians, what shall your home be?

It would be difficult to express the pleasure with which we listened to this paper, so sensible, so earnest, and so full of hints for making home beautiful, which any one who has any love of nature in his soul can put into practice.

Mr. W. H. Ragan followed with a short paper on the insect enemies of the orchard, in which he showed that they could be mastered if orchardists, large and small, would act in concert with the object of winning the day in view, otherwise he feared they would never be overcome. The discussion elicited by this paper was to the effect that orchardists can secure good crops of fruit despite the negligence of the careless by keeping up a constant and vigilant war upon the injurious insects of every kind.

The evening session was opened with the reading of a paper on raspberry management and the new raspberries, by Mr. J. C. Evans, of Missouri, in which he stated that land having a gentle inclination in any direction, except south or south-west, and that would produce a good crop of corn, was suitable for raspberry culture. He would plant in rows seven feet apart, and three feet apart in the row, and devote the ground solely to raspberries, doubting the economy of planting any other crop between the rows at any time. On the new varieties he did not throw much light, merely stating that some were planting Hopkins and Gregg as the more profitable black-caps, and that Turner and Thwack were the popular red raspberries. Mr. D. B. Wier, of Arkansas, read a paper on the persimmon in his state, but the conditions are so unlike those of our climate that we took no notes of it, nor of the paper by Mr. W. M. Samuels, of Kentucky, on the new apples of value for market, which treated almost exclusively of southern varieties. Mr. T. T. Lyon, of Michigan, submitted the report of the committee on fruits exhibited, stating that there were 145 plates of apples exhibited by the Missouri Valley Horticultural Society, and sixty varieties of apples and three of pears exhibited by Mr. Geo. P. Peffer, of Wisconsin. Of the Salome apple, which has been attracting considerable notice of late, the report says that it is a fine looking, medium sized fruit, in perfect condition, and of fair sprightly flavor, fine grained, juicy and agreeable; said to be in good eating condition from autumn until late spring with only ordinary care, and expresses the opinion that if valuable, it will probably be so on account of some quality of the tree or fruit that peculiarly fits it for the climate of Illinois.

Thus was closed the sessions of the Mississippi Valley Horticultural Society. Many papers of great value were not read at the meeting for want of time, but they are all published in the Volume of Transactions, which may be had for the sum of one dollar on application to Mr. W. H. Ragan, Secretary, Lafayette, Indiana.

PROTECTING GRAPE VINES IN WINTER.

In the cold parts of the province it is the safer way to lay the grape vines down at the approach of winter in order to secure crops of fruit. By laying the vines down the evaporation is lessened, and when the snow falls they are covered by it, and thus protected until it is melted. It is the frosty drying winter winds sweeping through the vine branches if left on the trellis that injure the buds, seemingly lowering the vital force so that they push feebly, if at all, on the return of warm weather. The writer has seen vines through which the sap ran freely, unable to burst a bud; the buds were

killed, though the wood was seemingly uninjured. It is usually better merely to throw the vine upon the ground and trust to the snow for a covering, than to place strawy manure in which mice may harbor upon them, or to cover them with much earth, which in wet weather will rot the buds.

INTERNATIONAL FRUIT EXHIBITION.

The World's Industrial Exposition is to be held in New Orleans, commencing on Monday, December 1st, 1884, and continuing for six months. It is intended that in many important features this Exposition shall surpass any that has ever been held. The Main Building is now being erected; it will cover thirty-two acres of ground, giving far more exhibition space than any that has ever been built. The Art building, the Agricultural and Horticultural buildings, and other structures for special purposes, will be on the same liberal scale.

The winter season being the one of greatest leisure to those who till the ground, it is anticipated that this exhibition will be more generally visited by agricultural and horticultural people than any previous one. There is also the great charm to those whose homes are in the north of leaving the frost and the snow and the biting winter blasts, and spending a few weeks among the roses, and yuccas, and orange blossoms of the south. The city, where the exhibition is to be held, is itself full of attractions to a stranger. There is a novelty even in the ways of the people that makes a visit always interesting to a northerner.

In view of all these considerations, the Board of Managers intend to give more attention to the great interest of Pomology than has ever been done before, and to carry out this intention has decided to have an International Show of fruits, a thing never before attempted. That this department of the exhibition may be made a great success, the management of it has been entrusted to the Mississippi Valley Horticultural Society, whose President, Mr. Parker Earle, is not only an able and enthusiastic pomologist, but also a gentleman of great executive ability, under whose directions the pomological department cannot fail to be most thoroughly equipped.

A building is to be erected specially for the display of plants and fruits, to be about six hundred feet long by one hundred wide, located in grounds handsomely laid out and embellished. The premiums for fruits in medals and money will aggregate from twelve to fifteen thousand dollars. Exhibits in fruits are expected from every State and Territory of the United States, from the British Provinces, Mexico, and the leading nations of the world. The Citrus fruits of the Gulf States, California, the Mediterranean, South America, India and the Islands of the Sea will form a display unparalleled in the history of the fruit exhibitions of the world. The fruit exhibit will be kept up during the whole time of the Exposition, shewing the fruits in their season, and many, by the help of cold storage, far beyond their season. The New Orleans Refrigeration Company has placed the most ample facilities for cold storage to be found on the continent at the command of the management.

It is matter for congratulation that the projectors of this Industrial Exhibition have been able to appreciate the importance of the great fruit interests of the world, and to form some adequate conception of the commercial value of fruit. In thus providing liberally for a display of the world's fruit productions, as an important and attractive feature of their exposition, they have but assigned to fruit culture its

true position among human industries. Doubtless their wisdom in this respect will also be seen in the magnificent display that will be made, and in the throng of interested spectators that will crowd the building devoted to these products.

The great railway lines leading to New Orleans, we are informed, have already made concessions in rates which are without parallel for cheapness. We are not yet informed what arrangements, if any, have been made for the accommodation of the vast throng of visitors that will crowd the city to its utmost capacity. The premium lists will shortly be issued, meanwhile those wishing to obtain fuller information will please apply to Mr. Parker Earle, Cobden, Illinois, U. S. A.

We shall endeavour to keep the Fruit Growers of Canada fully informed of everything of interest to them relating to this great exhibition of the fruits of the world, and feel confident that they will not let pass unimproved this grand opportunity of making the world acquainted with our truly splendid winter fruits, that for high flavor and long keeping are unexcelled.

FLOWER-GARDENING IN SCHOOL GROUNDS.

We are much pleased to notice that Mr. W. E. Smallfield, of the Renfrew *Mercury*, has offered a prize of FIVE DOLLARS to be awarded to the school making the best display of flowers at the annual exhibition of the South Renfrew Agricultural Society in 1884. He has also made arrangements through Mr. James Vick, seedsman, of Rochester, N. Y., to supply the five schools in that county which first apply, with twelves packages of flower seeds to each, FREE OF COST, the application to be made by the trustees or teachers. Mr. Vick himself offers as a SECOND PRIZE a beautiful floral chromo on cloth and stretcher ready for framing, worth a dollar and a half.

This has been done by Mr. Smallfield in order to stimulate a taste for the improvement and adornment of school grounds, of which in truth there is great need. Many, yes, so far as the writer's observation extends, most of our school grounds in both town and country are a disgrace to our Canadian civilization. A barren, treeless waste, designates too many of our school sites, in some part of which stand a bare looking school house and, conspicuously planted in the rear, a couple of sentry-box outhouses, having about them a scanty growth of grass but luxuriant growth of weeds.

These prizes have not been offered by Mr. Smallfield as in any sense to be regarded as compensation for the labor of cultivation, but simply to draw public attention to that which in itself is recreation to the scholars, while at the same time it is refining in its tendency upon the school, and calls into exercise, if not into being, a taste for rural adornment that will be seen sooner or later about the homes of our people.

Can not this example be repeated in every county in our land? Are there not other gentlemen who sufficiently appreciate the value of a refined taste among our people, and the influence which the cultivation by the scholars of beds of flowers in their school ground must have for good upon the school itself, to offer like prizes in every county in Ontario? Surely an arrangement could be made with any of our Canadian seedsmen to supply the needed seeds for a beginning without cost to the schools.

But we must not stop even here. In some way we must offer in each county prizes for the best laid out and most appropriately planted school ground, and which is also most tastefully adornee with beds of flowers, and kept in the

best order. The prize to be awarded by a committee who shall visit each school ground in the county not less than three times during the growing season, which times are not to be known beforehand by the schools. Would not the offering of such prizes, and the appointment of such visiting committee be an appropriate work for the Fruit Growers' Association of Ontario, seeing that it now embraces tree planting and flower-gardening within the scope of its objects? We commend the subject to the consideration of the association at its next meeting on the thirtieth of the present month.

THE WALBRIDGE APPLE.

This variety is taking a prominent position as a hardy tree and a desirable winter apple in Iowa. Mr. John Platt, of northern Iowa, writes to the Secretary of the Iowa Horticultural Society, that ten years ago in passing the orchard of a neighbor, he was surprised at the healthy condition of a number of the trees, which, on inquiry, proved to be Walbridge. They had then withstood the cold withering blasts, for which that part of Iowa is noted, for more than a quarter of a century, and shewed no sign of decay. On the contrary they were loaded with fruit almost to breaking, forming a striking contrast as compared with most of the original orchard which, save an occasional Haas, Golden Russet or Snow Apple, was either dead or dying. And now ten years later, the same old trees of the Walbridge are still standing, laden with a bountiful crop of apples, standing "as guiding posts to the solution of the problem of the successful cultivation of a hardy, good-keeping winter apple, adapted to the bleak climate of northern Iowa."

With such a record in a climate so trying, surely this variety may be planted in Muskoka or Haliburton, or the Valley of the Ottawa, or in the Province of Quebec with every prospect of success. It is also known by the name of Edgar Red Streak, having originated in Edgar County, Illinois. The fruit is of medium size, of a pale light yellow color shaded with pale red in the sun, and striped and splashed with bright red over most of the exposed surface. The flesh is white, fine grained, juicy, with a mild sub-acid flavor. In use from January to May. The quality is not considered equal to that of Esopus Spitzenburg or Grime's Golden Pippin, but the hardiness and productiveness of the tree and the late keeping character of the fruit make it valuable for a cold climate.

FORESTRY.

RECLAMATION OF DRIFTING SANDS.

Robert Douglas, of Illinois, states that in order to establish the fact that the very poorest lands can be profitably planted to certain kinds of forest trees, he purchased several hundred acres of sand ridges and blowing sands on the western shore of Lake Michigan. He succeeded with Scotch and Austrian pines on blowing sands, and with white pines and European larches on sand ridges sparsely covered with Bearberry, Potentilla and Trailing juniper. These trees occupied about two years in extending their lower branches to cover the sand, and then threw up leaders almost as rapidly as if growing on good land. This experiment was not made by planting a few of the different kinds of trees on a few acres, but by hundreds of thousands of trees on three to four hundred acres.

THE BEST TIME TO CUT TIMBER.

The Russian foresters cut down their timber trees just after the spring growth is completed, and before the bark has tightened too much for peeling; they

then strip off the bark, but allow the upper branches with their leaves to remain. These leaves will evaporate a large portion of the sap in the trunk of the tree before they dry up, and the bark being taken off, the trunk seasons rapidly, and makes more valuable timber for any purpose than that which has been cut in winter. Willow and oak bark taken from the trees in this way is valuable for tanning and has a market value. It is the willow bark that is used in the tanning of the soft leather for which Russia is so famous. The apple growers of central Russia pack their apples in boxes made of the bark of trees. As soon as the bark is taken from the tree it is flattened by pressure until dry The boxes contain about three bushels of apples and the covers are fastened on with cords tied around the box both ways. Hundreds of thousands of these bark boxes are used every year. This we glean from the Report of the Iowa Horticultural Society for 1882.

THE WILD BLACK CHERRY,

Prunus serotina.

R. Douglas, the great aboriculturist of Illinois, writes to Professor Budd of Iowa, that this is one of the most profitable trees for forest culture; that it is a rapid grower, easy to transplant, healthy, and fit for the purposes of the cabinet maker when thirty years planted, while the black walnut requires fully double that time before the wood is suitable for such purposes. The tree grows well even on poor gravelly land, and can be planted where the black walnut and many other trees would not thrive. As to its being a breeding place for the tent caterpillar, it is only where the trees stand singly or very sparsely scattered that the caterpillar seems to be troublesome, growing in groves they do not suffer specially from this insect. If there be only half a dozen Austrian Pines in a township the sapsuckers will make sad havoc on them, but if there be thousands of the trees the work of the sapsucker will not be conspicuous. And so with the cherry tree, when grown in quantity the injury sustained from the depredations of insects will not be greater than might be inflicted by them on a like number of trees of the black walnut. The writer has seen fine trees of this cherry growing in the vicinity of Guelph, so that it will doubtless thrive over a large part of this Province. The wood is very valuable and much employed in cabinet work. The seed should be mixed with moist sand as soon as gathered and never allowed to become dry, for if once thoroughly dried it is very difficult if not quite impossible to make the seed germinate. It may be sown, if convenient to do so, as soon as gathered, thinly in drills, and transplanted into nursery rows when one year old, where they should be cultivated and kept free from weeds until of sufficient size to be set in permanent plantation.

SHELTER FOR SMALL FRUITS.

The benefit derived from having my small fruit patch surrounded by evergreens has surprised me very much. It has at least doubled the amount of fruit and quality of plants over what it was when not thus protected. Evergreens do not rob and poison the ground like deciduous trees. All kinds of small fruit that I have experimented with do well in their immediate vicinity, which is not the case with deciduous trees. I have a row of Snyder blackberry planted on the north side of a red cedar hedge, running east and west; the way they thrive is a wonder to the neighborhood. The blackberry row is four feet from the hedge. I wish it were about six; it is now too close to allow room for picking.—C. H. Gardner, *in Iowa Horticultural Report.*

QUEBEC FORESTRY ASSOCIATION.

The annual meeting of the Province of Quebec Forestry Association was held in Forestry Hall, St. James street, Montreal. The President, Hon. H. G. Joly, M.P.P., occupied the chair, and after the usual routine business, addressed the meeting as follows :—

GENTLEMEN. — This Association was founded in October of last year. We have had no meeting since then, as it would have been difficult to collect our members, scattered as they are all over the province, but when we parted, we all knew what each one of us had to do, and we can show some work.

The first year of our existence has been a good year for us and one of unexpected success, but has been darkened by the loss of a dear and valued friend, our Honorary President, Mr. James Little. He died full of years, knowing that the seed sown by his hand so many years ago, in what appeared a hard and ungrateful soil, had sprung up at last and bid fair to ripen and bear fruit bountifully, seeing that his warnings had awakened the country at last and that the danger of total destruction to our forests, first pointed out by him, had been admitted by the thinking men of this continent.

I will now briefly sum up the work of the year, merely reminding you beforehand, that our association has no funds or next to it, and that it relies on the personal exertions of its members for doing the work that the association had in view, planting trees, as each member undertakes to plant or sow twenty-five forest trees every year

We have been well supported by the Hon. W. W. Lynch, the Commissioner of Crown Lands ; he has thrown himself, heart and soul, into the work, and we are deeply indebted to him, not only for the success of our first "Arbor Day," but for the introduction, in our Legislature, of laws which have for their object the carrying out of the views expressed by the American Forestry Congress and by us, for the protection of forests against fire and waste, and for the classification of public lands in such a manner that settlement should be encouraged on the lands best fitted for agriculture, and that lands only fit for the growth of timber, and especially pine, should be reserved for that purpose, as long as it does not interfere with the colonization of the country.

Our first "Arbor Day" has been an unexpected success, not only in the large cities, like Montreal and Quebec, but especially in many of the country parishes, where it was much wanted, and where the clergy were most zealous in encouraging the people, in many cases setting the example by planting trees with their own hands.

The Council of Public Instruction are equally entitled to our gratitude for the way in which they have encouraged the observation of "Arbor Day" in all educational establishments under their control.

It will be a satisfaction for you to know that the news of the first "Arbor Day" in the Province of Quebec has reached such distant countries as Algeria, and that the example set by us is likely to be followed there.

In the absence of reports from all the different localities, it is impossible for me to say how many forest trees have been sown or planted in the province by the members of our association and by the people at large, on Arbor Day. I hope we shall be able to devise means for securing all those reports for another year, and for publishing a summary of them, if not the whole.

In the meantime I can take upon myself to state that many thousands of forest trees have been planted or sown since our meeting last autumn. There is one tree, however, upon which I can speak with a good deal of certainty ; it is the ash-leaved maple (acer negundo, or box elder or crable a giguieres). During the last twelve or thirteen months from four to five hundred thousand seeds of that tree must have been sown in the Province of Quebec. I come to that conclusion from the number of pounds of seed that have been sold during that time, as reported to me by those who most largely deal in that article.

The extraordinary rapidity of growth of the ash-leaved maple, the shortness of the time required before it can produce sugar (and thereby replace the old sugar orchards of the past) have acted as a wonderful sti-

mulant on the minds of our people and done more for forestry than anything else could have done. In growing that tree people will learn how easy it is to grow forest trees; they will naturally take to the cultivation of more valuable trees, such as black walnut, butternut, elm, oak, ash, pine, spruce, tamarac, &c., according to the nature of the soil and other circumstances.

I think we can look, if not with pride, at least without shame, on the results of our first year's work; we have certainly got something to show for our money, twelve dollars—total receipts up to date.

You have doubtless heard that it is proposed to hold next year, an International Forestry Exhibition at Edinburgh. I hope you will take this important matter into consideration, as it is one in which we, as a Forestry Association, and the whole Dominion, are deeply interested.

Mr. J. C. Chapais announced that he had brought out a book on forestry entitled "Illustrated Guide to Canadian Tree Culture," which he hoped would be of benefit to the cause, and especially in the education of the young.

Mr. Wm. Little said that he had received a copy of the work, which was a very valuable one.

Mr. J. X. Perrault referred to the great importance of education in the matter of forestry, and expressed the hope that the association would encourage the distribution of forestry literature throughout the Province. He would like to know, from the Minister of Crown Lands, if his department intended taking any steps to assure a proper distribution of forests into districts, so that the cutting of the forests should be done systematically, and that when one portion was cut the lumbermen should not return to that district for say twenty years, when it would be restored. This was the system followed in Europe and he thought steps should be taken to procure the same here.

THE COMMISSIONER OF CROWN LANDS, Hon. Mr. Lynch, in reply, said that the progress that had been made in forestry matters since last year must prove a source of the greatest encouragement and satisfaction to the members of the society, and especially to the president, Hon. Mr. Joly, who had gone to much trouble. He did not think that persons generally realized the difficulties that attended the foundation of this society and the establishment of what was known as "Arbor Day." When the idea of having such a day was inaugurated he himself had thought there was very little in it, that it was more of an idea that would never become a reality. Practical experience had, however, shown him that it was a reality which could not fail to be the source of much future good to the country. There had been not a few difficulties attending the inauguration of such a day, but he was glad to be able to say that from one end of the Province to the other a beginning had been made, and not only in the large cities and districts, but also in the smaller hamlets and villages, had the day been celebrated with much success. This, he was pleased to notice, was one of the results of that combined, associated effort that had led to the foundation of this Association, and to the adoption of legislation regarding the protection and separation of our timber and colonization lands. He firmly believed that the latter was one of those pieces of legislation that would be of great good to the country. The object of the legislation in question was in the direction to which Mr. Perrault had referred. He had only occupied, he might say, the position of Minister of Crown Lands for a few months, but in this short period he had learnt that it was a most responsible position and upon it depended very greatly the future prosperity of this province. He thought that they should protect their natural resources; about all that they had now was their forests,

and they were a legacy handed down to us to preserve, not to destroy. He might add that there was no legislation of the nature spoken of by Mr. Perrault, and he did not know that he was in a position to bring such legislation before the approaching session of the Legislature, for the reason that it covered the whole ground and had to be most carefully considered. The aim of the Association, he thought, should be to encourage whatever Government was in power to preserve and protect their forests, and he was in hopes that before long the Association would depute one of its members to co-operate with the Minister of Crown Lands, and in this way such legislation might be effected as would assure the object spoken of by Mr. Perrault. He referred to the great need there was for education on this subject, as there existed, to a great extent, in the minds of the masses, an idea that this movement was one of no practical effect, and this idea would have to be dispelled. It had been said that conflict might arise between the Government and the lumbermen. He, however, believed that the great majority of the lumbermen would aid them, as it was to their interest to do so. The importance of the subject was great—so great, in fact, that when the meeting adjourned it would do so with the understanding that the members should meet again at an early date to discuss the question. Legislation was imperatively needed. He would like to see it well and carefully considered, but he would also wish to see it passed as speedily as possible. The future prosperity of the Province depended largely, he was convinced, upon the action they took now, and there should be no delay in the matter.

Mr. Wm. Little moved, seconded by Mr. G. L. Marler,

That a committee be appointed to memorialize His Excellency the Governor-General on the subjects of the forests of the country, with a view of having a Parliamentary enquiry made into their condition, especially with reference to the white pine, respecting which it is said there is now a growing scarcity of the merchantable or first quality pine, a description of wood on which the prosperity of the country has greatly depended. That the chairman be requested to name the committee, who shall be authorized to make what representations, enquiries or suggestions to them may seem requisite in the premises.

The motion was carried.

On motion of the Chairman it was resolved :—That in view of the proposed International Exhibition, to be held in Edinburgh in 1884, respecting which full particulars have been received by this association from the executive committee of this exhibition, and the success thereof fully assured, this association would respectfully urge upon the Government of Canada the great importance of having the Dominion represented at this International Forestry Exhibition by as full and complete an exhibit as possible of our Canadian woods, forest products, and the articles referred to in the circulars of the exhibition committee, and would further urge that such assistance be given to all contributors from Canada, having articles of merit to exhibit who desire to compete for prizes, as to enable them to do so.

Considering how much the forests and the industries connected therewith have contributed to the prosperity of the country, it is to be hoped that such action may be taken by the Government as will make the Canadian exhibit worthy of the prominent position Canada occupies as a producer of forest products.

THE NIAGARA GRAPE.

To the Editor of the Canadian Horticulturist.

I see in the November number of your valuable paper a copied article on the Niagara grape, which you say you copy for the benefit of your readers, and to contribute your mite towards keeping the grape before the public, and I also have decided to give my experience of the Niagara grape through the *Horticulturist* as often as I think it will be of any service to the growers of vineyards. I should take it, that the writer of the Wine and Fruit Grower had only seen the grape for once, and based his opinion on that exhibition alone, which would hardly be a fair test. As I have had some experience in grape culture for the last fifteen years, I may venture to give my opinion of the Niagara. I visited the vineyards of the Niagara Grape Co., at Lockport, N. Y., in the fall of 1882, and saw three acres of this grape in bearing, and from its extra productiveness, healthy foliage, and apparent good qualities, I decided at once to plant 700 of the vines, and did so last spring. Although I was disappointed when I got them, they being so small, yet I was determined to give them a fair trial, and I must say that I have never seen vines make a more vigorous growth. I again visited the Niagara vineyards in the fall of 1883, which is well known to have been a very poor year for grapes, and I again found an abundant crop of grapes well ripened and of fine quality. Desiring to test their shipping qualities, I procured some and sent them to Winnipeg, and they were received there in perfect order. So firmly am I impressed with the market value of this grape as a keeper and shipper, that I have given my order for 1,000 more vines to plant next spring, and I have no fears of getting *left* either.

If the Niagara grape proves to be a failure, I think the sooner that people know it the better; but if it proves to be a profitable grape for our country, give it its just due. As a wine grape I do not profess to be a judge, but I do think it would only be fair to give it a thorough test as a wine grape, and then give the results to the people, and do away with any question or doubt as to whether the wine made was the production of the Niagara or not.

Aaron Cole.

St. Catharines, Ont.

Note by the Editor.—The experience of cultivators is just what we desire to have sent for publication. It is worth more as a guide to others than any mere opinion not based upon experience possibly can be. And that not only in regard to one fruit, but with regard to everything. Our Canadian cultivators are especially requested to send the results of their experience for publication in the *Canadian Horticulturist*.

PUMP FOR SPRAYING FRUIT TREES.

To the Editor of the Canadian Horticulturist.

Dear Sir,—In the June number of your paper I saw an enquiry from Mr. Geo. Strauchan, for a good, efficient orchard force pump, for spraying poisonous liquids on fruit trees for the purpose of destroying the aphis, codlin moth, canker worm, and other insects so fatal to our fruit. Last year I used one of Field's orchard force pumps, manufactured in this city. I used one-fourth pound of London purple in forty gallons of water; kept it well mixed by pumping through the hose back into the cask; threw it above the tree allowing it to fall back in a spray. I had nicer fruit than I ever had before from this orchard; in fact, my pears were entirely free from worms, while my neighbor's were wormy and most of

their fruit dropped off. I can recommend Field's pumps for this purpose, and I believe it absolutely necessary to spray trees with poisons to counteract the ravages of these fruit pests.

Yours truly,

H. S. CHAPMAN.

Lockport, Dec. 15, 1883.

THE ENGLISH SPARROW.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—When it was decided at our last winter meeting that the English sparrow is an evil-doer and as such should be banished from our shores, I remember friend Gott, of Arkona, pleaded earnestly to spare the little emigrant. Mr. Brooks, of Milton, in an able letter in your March number, did the same. I came across a third advocate in a Scotch piece, so Scotch I doubt if our Editor can understand it, but so beautiful I would have him give it for the benefit of his Scotch readers of whom among these three thousand there are doubtless many. It is from the pen of a Montrealer.

Yours truly,

JOHN CROIL.

THE SPARROW.

When the cauld wind blaws snell wi' snow and wi' sleet,
An' the immigrant sparrows hae naething to eat,
Open your winnocks, an' throw out your crumbs,
An' they'll chirp their blythe thanks round your cozie auld lums.

Come here, bonnie birdie, I'll do ye nae harm,
Your chirpin' to me has sic a hame charm;
Whar cam ye frae, and whar hae ye been?
Ken ye "auld Reekie," or ken ye "the Dean?"

Aiblins ye've chirp't on my dear mother's grave,
So for you, puir wee birdie, my moolins I'll save,
Gin you come every day, your gebbie I'll fill,
An' I'll shelter ye weel frae the frost an' the chill.

But tho' I show pity, I maun tell ye the truth,
I ne'er lo'ed ye, birdie, in the days of my youth;
Na, na, your bold deeds brought the tears frae my 'ee,
For ye killed puir Cock Robin "as he sat on a tree."

Yet I'll no let ye starve, tho' a bird o' ill name,
Tho' may be 'twar better ye had bidden at hame,
It's weel kent ye hae cam o' a murderous race,
An' I never could see ony guid in your face.

But gif ye tak tent, an' earn a guid name,
We'll let byganes be byganes, we're baith far frae hame;
Ah! ye care na for counsel, I see at a whup,
As ye chirp i' my face, dight ye'r neb, an' flee up.

Gae wa' ye prood birdie, sin advice ye'll hae nane,
Ill birdies like you are safest at hame,
Ye thrawart auld carlin! what maks ye sae prood,
I'll get twa for a farthing, the best o' your brood.

Oh, come back, puir wee birdie, an' peck up your fill,
An' mak a guid breakfast, on my window sill;
I forgot when I scolded, and bade ye gae wa',
That our Heavenly Father taks tent gin ye fa',
An' tenderly cares for baith you an'

GRANDMA.

REGARDING BEANS.

We do not "live up to our privileges" in the matter of beans. Custom has established the arrangement that certain varieties of beans, as the "Early Valentine," "Golden Wax," and others, are good for "snaps" or "string beans;" that the "London Horticultural," the "Lima," and others are good when shelled green; and that the "Blue Rod," "Medium," "Navy," and several others are proper for winter, or as ripe beans. All of this is very well, so far as it goes. But it restricts the usefulness of some beans. As the best of all green beans are the Lima, so are they the best of all ripe beans. In the localities where the season allows of their ripening, they should be collected. If frost threatens, pull up the poles, with the vines attached, place them under cover, and allow what will, to ripen in this manner, and when the pods are dry, shell the beans. If any one likes the Yankee dish of "pork and beans," let him try the Limas, treated in the same manner as the ordinary white bean, and he will have a new experience as to the utility and excellence of this bean. The ripe Lima beans, soaked or parboiled until quite tender, and then fried in butter, make a pleasing variety in winter.—*American Agriculturist.*

EARLY HARVEST BLACKBERRY.

THE EARLY HARVEST BLACKBERRY

Of this new early ripening blackberry, Mr. J. T. Lovett, of New Jersey, says, It is a chance seedling. It was found growing in the proverbial fence corner, nearly ten years ago, in Illinois, where it was so hardy, productive, luscious and extremely early as to attract the attention of the unobserving farmer—in no wise interested in fruit culture—on whose land it sprang into existence. A neighboring horticulturist, being informed of it, went in after years to see it in fruit, but owing to its very remarkable earliness was for two seasons frustrated in his endeavors, as he did not reach the spot until the fruit had ripened and disappeared. At last finding the bushes laden with such excellent fruit he made arrangements at once for its propagation, and succeeded in getting enough in fruit to make a shipment to the Chicago market in 1881, which sold for twenty-one cents per quart, wholesale. From that date the propagation of the variety has steadily gone forward, but there being only a small stock at the beginning, the supply of plants is as yet limited. As the berry was found ripening with Winter wheat in an adjoining field when discovered, the appellation of Early Harvest was

chosen as an appropriate name for it. From its general appearance in leaf and cane, or other causes, the Early Harvest has become much confused with Brunton's Early, from which, however, it is not only quite distinct in fruit, but its blossoms are entirely perfect or self-fertilizing, having an abundance of stamens, while those of Brunton's are pistillate or imperfect, requiring the presence of some other variety to fructify it. It is also exceptionally hardy while Brunton's is not.

The peculiar form and size of it, under good culture, are well portrayed by the accompanying engraving. The berries are very uniform in size and shape,

BRUNTON'S EARLY.

shiny black, with exceptionally small drupes or grains, compactly and evenly arranged, rendering it most attractive in appearance and its shipping qualities unexcelled. Quality sweet and excellent; without the sour disgreeable core present in most varieties. In New Jersey it commences to ripen from the first to the fourth of July, or about with the

Turner Raspberry, and fully ten days in advance of the first ripening berries of Wilson's Early—ripening its entire crop in a short period, enabling the fruit-grower to gather the whole of it in a few pickings and have it out of the way while prices are high and by the time of making the first picking of the old popular Wilson. Canes are of rather dwarf, rugged, upright growth, with numerous side branches, enormously productive and very hardy. In hardiness it nearly or quite equals the iron clad Synder, having stood twenty degrees below zero in Illinois, without being harmed. Owing to its dwarf habit it should be planted in rows but five feet apart and three feet apart in the rows, while it is so excessively prolific it needs to be pruned severely to check this tendency and thus add size to the fruit. Blossoms altogether perfect or self fertilizing. It is decidedly distinct from all the standard varieties, descending apparently from a different species, and from its remarkable earliness and other merits is of untold value to all growers of fruit, whether for market or for family use only. Having fruited it for two seasons I speak from experience, and am confident that those with whom the Wilson and other early varieties have proved profitable in the past, will find in Early Harvest a berry yielding even greater returns in the future.

Parker Earle, Pres. Mississippi Valley Horticultural Society, before the American Pomological Society, September, 1883, says:—"I have fruited the Early Harvest three seasons, and I find it a berry with many merits. It is the earliest to ripen of all the blackberries. With us it ripens a week or more before the Wilson; others report even more difference. It ripens with the red raspberries. This one quality gives it unrivalled advantages for market growing wherever early ripening is desirable, and for all growers for home use. The fruit is only medium in size, but it is a very symmetrical and uniform berry, making a handsome dish on the table, and a fine appearance in the market. It carries three hundred miles to market with us in excellent condition and pleases buyers. The plant is healthy, of sturdy but not rampant growth. It is so far perfectly hardy in South and South Central Illinois, and has with us endured fifteen below zero, and further north twenty below, without material harm. It is exceedingly prolific, and in all respects, so far as I have yet seen, excepting its rather inferior size, it is a perfect blackberry. But though it is no bigger than Snyder, and possibly not so large, yet it is so early, and it bears so well, and eats so well, and ships so well, and SELLS so well, that it has very notable value for a large portion of our country.

We give also an engraving of Brunton's Early, that our readers may be able to compare the general appearance of the two fruits.

EXTRACT FROM PRESIDENT WILDER'S ADDRESS,

BEFORE THE AMERICAN POMOLOGICAL SOCIETY AT ITS LAST MEETING.

In former addresses, I have spoken to you of the importance of the establishment of short, plain, and proper rules, to govern the nomenclature and description of our fruits, and of our duty in regard to it; and I desire once more to enforce these opinions on a subject which I deem of imperative importance. Our Society has been foremost in the field of reform in this work, but there is much yet to be done. We should have a system of rules consistent with our science, regulated by common sense, and which shall avoid ostentatious, indecorous, inappropriate and superfluous names. Such a code your

Committee have in hand, and I commend its adoption. Let us have no more Generals, Colonels, or Captains attached to the names of our fruits; no more Presidents, Governors, or titled dignitaries; no more Monarchs, Kings, or Princes; no more Mammoths, Giants, or Tom Thumbs; no more Nonsuches, Seek-no-furthers, Ne plus ultra, Hoggens, Sheep-noses, Big Bobs, Iron Clads, Legal Tenders, Sucker States, or Stump-the-World. Let us have no more long, unpronouncable, irrelevant, high-flown, bombastic names to our fruits, and, if possible, let us dispense with the now confused terms of Belle, Beurre, Calebasse, Doyenne, Pearmain, Pippin, Seedling, Beauty, Favorite, and other like useless and improper titles to our fruits. The cases are very few where a single word will not form a better name for a fruit than two or more. Thus shall we establish a standard worthy of imitation by other nations, and I suggest that we ask the co-operation of all pomological and horticultural societies, in this and foreign countries, in carrying out this important reform.

As the first great national Pomological Society in origin, the representative of the most extensive and promising territory for fruit culture, of which we have any knowledge, it became our duty to lead in this good work. Let us continue it, and give to the world a system of nomenclature for our fruits which shall be worthy of the Society and the country,—a system pure and plain in its diction, pertinent and proper in its application, and which shall be an example, not only for fruits, but for other products of the earth, and save our Society and the nation from the disgrace of unmeaning, pretentious, and nonsensical names to the most perfect, useful, and beautiful productions of the soil the world has ever known.

RULES OF THE AMERICAN POMOLOGICAL SOCIETY.

These rules are recommended to the attention of all horticultural and pomological societies, in the hope that by concert of action some much needed reforms may be secured, especially as indicated in that portion of President Wilder's address which we copy in this number:

SECTION I.

Naming and Describing New Fruits.

Rule 1.—The originator or introducer (in the order named) has the prior right to bestow a name upon a new or unnamed fruit.

Rule 2.—The Society reserves the right, in case of long, inappropriate, or otherwise objectionable names, to shorten, modify, or wholly change the same, when they shall occur in its discussions or reports; and also to recommend such changes for general adoption.

Rule 3.—The names of fruit should, preferably, express, as far as practicable by a single word, the characteristics of the variety, the name of the originator, or the place of its origin. Under no ordinary circumstances should more than a single word be employed.

Rule 4.—Should the question of priority arise between different names for the same variety of fruit, other circumstances being equal, the name first publicly bestowed will be given precedence.

Rule 5.—To entitle a new fruit to the award or commendation of the Society, it must possess (at least for the locality for which it is recommended) some valuable or desirable quality or combination of qualities, in a higher degree than any previously known variety of its class and season.

Rule 6.—A variety of fruit, having been once exhibited, examined, and reported upon, as a new fruit, by a committee of the Society, will not, thereafter, be recognized as such, so far as subsequent reports are concerned.

SECTION II.

Competitive Exhibits of Fruits.

Rule 1.—A plate of fruit must contain six specimens, no more, no less, except in

the case of single varieties, not included in collections

Rule 2.—To insure examination by the proper committees, all fruits must be correctly and distinctly labeled, and placed upon the tables during the first day of the exhibition.

Rule 3.—The duplication of varieties in a collection will not be permitted.

Rule 4.—In all cases of fruits intended to be examined and reported by committees, the name of the exhibitor, together with a complete list of the varieties exhibited by him, must be delivered to the Secretary of the Society on or before the first day of the exhibition.

Rule 5.—The exhibitor will receive from the Secretary an entry card which must be placed with the exhibit, when arranged for exhibition, for the guidance of committees.

Rule 6.—All articles placed upon the tables for exhibition must remain in charge of the Society till the close of the exhibition, to be removed sooner only upon express permission of the person or persons in charge.

Rule 7.—Fruits or other articles intended for testing, or to be given away to visitors, spectators, or others, will be assigned a separate hall, room, or tent, in which they may be dispensed at the pleasure of the exhibitor, who will not, however, be permitted to sell and deliver articles therein, nor to call attention to them in a boisterous or disorderly manner.

SECTION III.

Committee on Nomenclature.

Rule 1.—It shall be the duty of the President, at the first session of the Society, on the first day of an exhibition of fruits, to appoint a committee of five expert pomologists, whose duty it shall be to supervise the nomenclature of the fruits on exhibition, and in case of error to correct the same.

Rule 2.—In making the necessary corrections they shall, for the convenience of examining and awarding committees, do the same at as early a period as practicable, and in making such corrections they shall use cards readily distinguishable from those used as labels by exhibitors, appending a mark of doubtfulness in case of uncertainty.

SECTION IV.

Examining and Awarding Committees.

Rule 1.—In estimating the comparative values of collections of fruits, committees are instructed to base such estimates strictly upon the varieties in such collections which shall have been correctly named by the exhibitor, prior to action thereon by the committee on nomenclature.

Rule 2.—In instituting such comparison of values, committees are instructed to consider:—1st, the values of the varieties for the purposes to which they may be adapted; 2nd, the color, size, and evenness of the specimens; 3rd, their freedom from the marks of insects and other blemishes; 4th, the apparent carefulness in handling, and the taste displayed in the arrangement of the exhibit.

THE CUTHBERT AND SHAFFER'S COLOSSAL RASPBERRIES.

Among the red raspberries we have found nothing better for marketing than the Cuthbert, and for drying or canning we think very much of Shaffer's Colossal. Its berry is very large; it is a wonderful grower, and as far as we have tried a great bearer. We know of nothing equal to it when cooked; colour too dark for general market purposes. We intend to put out about ten acres the coming spring. We have had an opportunity to contract all we can raise on twenty acres at ten cents for canning, which we did not accept, as we have no doubt they will sell for more. Canners are using them largely, and offer good paying prices. We last year sold 25,000 quarts at ten cents for our whole crop. We have usually found that they pay better to evaporate, which can be done with much less cost and trouble; and notwithstanding that the acreage has increased largely during the last few years the demand grows stronger, and we do not anticipate seeing the prices fall below a profitable point for years to come.

In evaporating, the temperature

CUTHBERT.

should never be over 190°, and it is better not to raise it above 160° or 170°. To make the best fruit they should not be dried hard, but should be taken from the evaporators while much of the fruit is yet more or less soft.—*H. P. Van Dusen in Country Gentleman.*

BOOK NOTICES.

Landreth's Rural Register and Almanac for 1884 is full of information concerning seed growing, garden vegetables, and flower seeds, and marks the one hundreth year of the business career of D. Landreth & Sons, as seedsmen, in Philadelphia.

Calendar of Queen's College and University, Kingston, Canada, for the year 1883–84, contains the usual announcements, subjects of study, scholarships, and examination papers in arts, theology and medicine, with list of graduates and alumni.

The American Angler is a weekly journal devoted to fish and fishing, published by the Angler's Publishing Company, 252 Broadway, New York, at $3 a year, W. C. Harris, editor. Judging from the specimen copy received it is well filled with reliable information on the subjects to which it is devoted.

Catalogue of Books on Agriculture, Horticulture, and Botany, including the best works on Floriculture, Gardening, Domestic Animals, Rural Architecture, and kindred subjects, for sale by Robert Clarke & Co., 61, 65, West Fourth Street, Cincinnati, Ohio, 1884.

Our Little Ones and the Nursery is published monthly by the Russell Publishing Company, Boston, Massachusetts, at $1.50 a year. It is illustrated with engravings in the best style of the art on every page, and the reading matter is printed in clear type of good size that will not weary the eyes of the little readers.

The Weather, by S. S. Bassler, in a pamphlet of fifty-four pages, published by Robert Clarke & Co., Cincinnati, Ohio, price 25 cents, which aims to be a help to the better understanding of the weather reports and predictions daily issued by the signal service. It treats of the dew-point, high and low barometer, storms, &c., and is fully illustrated with diagrams shewing the progress of storms.

VENNOR'S ALMANAC for 1884, printed by the *Gazette* Printing Company, Montreal, contains papers on Lunar Influence on Vegetation, Sun-spots and Aurora, the Solar System, Earthquakes, and others of general interest even to those who place no confidence in his weather forecasts.

THE AGRICULTURAL REVIEW and Journal of the American Agricultural Association for December contains, among other valuable papers, a very interesting account of stock-raising in the North-West by Gen. Brisbin, of the U. S. Army. Does our own North-West offer the same facilities for stock-raising as does Montana? If so, those who undertake that business there will find it very profitable. The *Review* will be published monthly during 1884 at $3 a year by Jos. H. Reall, 32 Park Row, New York.

GODEY'S LADY'S BOOK for January is illustrated with two amusing steel engravings, entitled the "First Call in the Country," and the "First Call in the City." A little red-breasted robin is the country visitor, while a telephone call is the trouble-saving substitute for personal attendance in the city. The Fashion illustrations are full and abundant. Of the literary excellencies we are not, perhaps, qualified to speak. Those who are fond of light reading, very light reading, will be pleased. Published monthly by J. H. Haulenbeck & Co., Box H. H., Philadelphia, at $2 a year.

VICK'S ILLUSTRATED MAGAZINE.—The Christmas number of this welcome monthly is more than usually attractive in its holiday dress. The papers on Fruit Raising, on Flowers in School Grounds, and the one entitled a Wild-Flower Talk are all deeply interesting, and contain much valuable information. This number is profusely illustrated, and adorned, as all the numbers are, with an exquisitely executed coloured lithograph in the very best style of the art. The chapter describing Harrisburgh, the capital of Pennsylvania, will be especially attractive to those who are interested in ornamental tree planting. Published by James Vick, Rochester, N. Y., at $1.25 per year.

SOUTHERN CULTIVATOR FOR DECEMBER.—We cordially welcome the *Southern Cultivator* for December. It is replete with articles of interest and value on every subject which is allied in any manner to the pursuit of agriculture. It is a charming number, a fit conclusion to the year, and an encouraging harbinger for the future. As we turn page after page we are delighted with its varied contents, and feel sure that the man or the woman who applies $1.50 in payment for a year's subscription thereto, makes a wise and profitable investment. The "Departments of the Household," "Childrens' Corner" and "Fashions," constitute most interesting features of this journal.

AMERICAN AGRICULTURIST, published in English or German, by the Orange Judd Co., New York, at $1.50 a year, contains nearly one hundred columns of original reading matter by the leading rural writers of the United States, and as many engravings executed by the best artists. The editorial matter is from the pens of such men as Joseph Harris, Geo. Thurber, Byron D. Halsted, all well known to the agricultural world. During the coming year special attention will be given to house plans for farmers, the exposure of humbugs, &c. The January number, already on our table, has a very suggestive picture, entitled "Talking over the crop prospects," and illustrations of two new varieties of blackberry, with many other pictures, and an excellent variety of reading matter.

CODLIN MOTH.

A fruit was kindly given to me,
'Twas fair as that which had upon it,
"Da pulcharissima mihi,"
And perfumed like all Araby,
An apple worthy of a sonnet;
But faugh! all thought of song inditing
Was banished by the act of biting.

O fulsome worm! art thou some breed
Which was engendered at the eating
Of that first fruit of which we read?
Is thence thy treachery—thy greed?
Thy gift, to give repellant greeting
To sharp desire? and teach us mortals
Disgust will haunt e'en pleasure's portals?

Alas! dear Eve, appearance caught her;
Had she but guessed a worm was in it,
She, like her wiser modern daughter,
Discreet, by what her nature taught her,
Had spurned that apple in a minute,
Or, eyed it with a dainty pout,
Then, deftly cut the traitor out.

How wonderful! that bite particular
Of that one typic, wormy apple,
Should make humanity vermicular—
Destroy man's moral perpendicular—
And place a knob upon the "thrapple"
Of all his masculine posterity—
'Twould seem a very mythy verity.

But that the thesis is well backed—
"Man's but a worm," affirms the preacher,
If other evidence be lacked—
His inborn and fruit-fustive nack,
Corroborates the *ortho*-teacher;
Judged by his tricks, the human wriggler
Is but a true gigantic wiggler.

O turn-coat moth! alas, to wit,
What else is man! Both seek disguise;
Both in some seeming harmless flit
Can drop a mischief-working nit,
To hatch into an enterprise,
That shall despoil a brother-neighbour's,
Appropriate his fruit and labor.

They name you in melhfluous Latin,
O carpo-capsa pomonella!
They say you sleep in finest satin,
As soft as millionaires grow fat in,
And yet you're but a felon fellow,
That theft of fruit that slimy train,
Decide you of the meanest strain.

This muddling kinship of a worm
I fain must leave to Willie Saunders,
Who, just by squinting at your squirm,
Can trace you back to *proto*-germ,
Unvail your transmutative wonders,
That scientist, when on his mettle,
Can ev'ry doubt about you settle.

S. P. Morse, *Lowille, Ont*

Pelargoniums Duke and Duchess of Albany.—These two new varieties belong to the regal class, distinguished by the crisped appearance of the petals, at first sight giving the flower the appearance of being semi-double, though in reality it is not so. Duke of Albany has large flowers of a deep crimson-maroon colour, with a narrow margin of rosy lake and a lighter coloured centre. Duchess of Albany has purplish violet coloured blooms, with the upper petals marked with maroon. Both are very fine sorts, and will no doubt become popular as they become better known. —*The Garden.*

Peaches in a Cold Climate.—A gentleman who has resided in Dakota, where the thermometer usually goes twenty below zero in winter, and last year sunk to thirty-eight below, informs us that he raises annually good crops of peaches. The trees are planted in a line at the foot of a steep sloping bank and inclined towards it. On the approach of winter, a slight bending brings them into contact with the ground, to which they are held by a weight, or by a forked stake driven into the ground. They then receive a thick covering of hay, straw or cornstalks, which enables them to obtain warmth from the ground. In the spring the covering is removed, and a few short stakes serve as props to raise the tree and its principal branches to its original position.—*Country Gentleman.*

The Lombard Plum—Is more planted than any other plum, as it is supposed to be hardy and partly proof against the curculio. This is owing to its great bearing; as if the curculio took half, there would in general be more left than the tree could properly ripen. This habit of overbearing causes it to be a very short-lived tree, as it gets so weakened after bearing two or three large crops that the first severe winter kills it, or injures it so that it will die in a few years. The only remedy for this is heavy manuring and thinning out the fruit when small fully one-half or two-thirds. What is left, owing to increased size, will give a heavier yield and bring a higher price than if all were left on. The fruit is purple, of only medium size and quality, and will only bring about half as much per bushel as Bradshaw, Pond's Seedling, white or yellow Egg, and other large varieties.—*New York Witness.*

Printed at the Steam Press Establishment of Copp, Clark & Co., Colborne Street, Toronto.

JESSICA.

THE

Canadian Horticulturist.

VOL. VII.] FEBRUARY, 1884. [No. 2.

THE JESSICA GRAPE.

The progress that has been made in the matter of grapegrowing within a few years is truly astonishing. It is not more than twenty-five years since all the varieties in cultivation in the open air did not exceed half a dozen in number. The principal of these were the Isabella, Catawba and Clinton. The Isabella is supposed to be a native of South Carolina, and to have been introduced to the notice of northern horticulturists about the year 1818 by the late Wm. Prince, who named it in honor of Mrs Isabella Gibbs, of whom he obtained it. It does not mature its fruit well in Ontario generally, although until the advent of the Concord it was the variety most often to be found in our fruit gardens. The Catawba is said to have originated in North Carolina, to have been taken from there to Maryland, and was introduced by Major Adlum of the District of Columbia about the year 1820 to the horticultural public. This grape though unsurpassed in quality, unfortunately is later in ripening than even the Isabella. It is said that the original Clinton was planted in the grounds of Professor Noyes, of Hamilton College, N. Y. in 1821, by the Hon. Hugh White, where it still remains. This variety is very hardy, ripens its fruit over a large part of Ontario, but the flavor is too acid to admit of it ever becoming a favorite in this Province.

For a long time these continued to be about all the varieties we had. In 1853 Mr. E. W. Bull, of Concord, Massachusetts, first exhibited his now celebrated Concord grape, which has been widely disseminated, and more abundantly planted than any other, perhaps than all the others combined. From this time we date a new era in grape growing in America, and great improvements in the earliness, hardiness and general adaptation of the vines to our northern latitudes.

The variety called Jessica and now presented to the notice of our readers is of Canadian origin, having been grown from seed by Mr. W. H. Read, in the County of Lincoln and Province of Ontario. It has proved itself thus far to be perfectly hardy in our climate, free from disease and enormously productive. It ripens very early, among the earliest we have; it is very sweet, free from all foxiness, sprightly and aromatic. The colour is a yellowish green, in some berries a yellow amber. For

general appearance of berry and bunch, and foliage, our readers are referred to the excellent colored illustration, executed by Canadian artists, Rolph, Smith & Co., of Toronto.

The venerable President of the American Pomological Society, the Hon. M. P. Wilder, in a letter to the writer says, "Its pulp is remarkably free from hardiness, and to my taste entirely free from the aroma of our native species. It resembles in appearance the Chasselas type, and affords another illustration of the progress which has been made in the improvement of the grape in our day."

The late H. E. Hooker, of Rochester, N. Y., wrote of it, "the quality of the fruit and its fine flavor pleased me very much."

John Hoskins, Esq., of Toronto, says of it, "I consider it an excellent grape, has not the slightest taint of 'fox', and is, I think, the earliest grape I have."

Mr. John Blain, of Louth, Lincoln County, says "having fruited the Jessica five or six years I can bear evidence that it is remarkably productive, very hardy, and without a rival in quality, of medium size, and a good keeper."

Mr. James Taylor, of St. Catharines, says, "I have fruited the Jessica two years, have found it hardy, very prolific, and free from mildew or any other disease. I consider it superior to most of the new varieties, and know of no better white grape."

These are the opinions expressed by those who have some knowledge of this new variety. What the result of more extended trial in a great variety of soils, different exposures and yet colder latitudes will be, can only be told after some years. In the mean while those who may give it a trial are requested to give the results of their experiment to the readers of this magazine. If our readers all over the province would only give each other the benefit of their experience through the columns of the *Canadian Horticulturist* we would soon arrive at the value of any given fruit in any and every part of Ontario.

Mr. A. A. Wright, of Renfrew, Director of our Association for the second district makes this appeal, which the editor most heartily indorses. "If the *Canadian Horticulturist* is to be a grand success—as we all hope it will be—it must rely largely on contributions from our members for variety, freshness, and interesting information. It is permitted to no one man to monopolize all the horticultural or floral information obtainable, but it is scattered through the minds of many. Should each member therefore of our Association furnish but one letter annually to our monthly, how much more interesting might it not be made? Can we not prevail on a good number to try what they can do?" Will not you, gentle reader, contribute something to these pages this year?

TAYLOR'S PROLIFIC BLACKBERRY.

It would seem that this variety has not proved to be as hardy in Iowa as the *Snyder*. It produces larger berries, which ripen a few days later, and are described as being long, about the shape of a short ended thimble; sweet, high

flavored, melting, without core and having few seeds; in short the best flavored blackberry one ever ate. Thus far it has proved to be sufficiently hardy to endure the winters of the Niagara District, and the plants are excellent bearers.

FLORIDA IN WINTER.

It was on the third day of March last, when you were wading in snow drifts, and wrapping your muffler close about your ears in order to keep out the biting, frosty winter winds, that in company with your honored, then Vice-President, Wm. Roy, Esq., of Royston Park, I set foot on the gulf coast of Florida at Cedar Key. We had enjoyed a most pleasant sail down the Mississippi from New Orleans and across the Gulf of Mexico. The weather had been most enjoyable. As we steamed down the river, we saw large gangs of men and women at work on the sugar plantations. We were told that they were planting sugar cane. Each of these plantations seems to contain a large number of acres. About in the middle of their breadth, but well to the front and near the bank of the river, stands the planter's house, of two stories in height, usually painted white, with veranda extending across the whole front, and flanked on each side with a double row of small white cabins, in which, in other days, lived the slaves. In the rear of all is the sugar mill. It is a long, narrow building, with a tall chimney stack rising high above every surrounding object. The river bank is much higher than the adjacent fields, and the deck of our steamer seemed to be about on a level with the second story of the planter's houses. We learned that there is thirty-five of these sugar manufactories now on this part of the river, and that the gross product is about fifteen thousand hogsheads of sugar, and twenty thousand barrels of molasses. The average yield per acre here is thought to be a little under two thousand pounds of sugar, and one hundred and twenty barrels of molasses. Adjoining the sugar plantations are those devoted to the cultivation of rice. As we passed them they seemed like vast tracts of waste low land, without tree or shrub. Indeed all this river front is a vast treeless stretch. In the distance we saw occasional trees of live oak, but most of the timber seemed to be nothing but cypress, telling of deep swamps and fathomless marshes. The saw mills and sugar house furnaces long ago used up all the accessible timber and fire wood, and save the little fuel required for domestic purposes, the sugar mills depend upon coal and the refuse cane from which the juice has been expressed for their fuel.

The cultivation of rice along the river here has greatly increased since the return of peace. Strange as it may seem the labor is mostly done by white men, notwithstanding the fact that the most laborious part of this industry comes in the months of June and August. These rice farms vary from twenty to two hundred acres. The average yield is said to be about twelve barrels of rough rice to the acre, worth usually about five dollars per barrel.

Below the sugar and rice plantations we passed a tract devoted to orange culture. This industry, we were told, has been carried on here from very early times, and it is claimed that there are orange trees yet standing that are over a hundred years old. For some thirty miles we passed through continuous groves of orange trees, looking not unlike young and very upright apple trees, of compact style of growth, with very rich dark green foliage. Some of these orange orchards are very

large. One was pointed out to us as comprising one hundred acres, and containing ten thousand orange trees, the fruit from which in one season sold for twelve thousand dollars. There were no oranges on the trees that we could discover as we passed; the harvest season was some months ago, and these golden apples had doubtless been long since converted into golden coin. The houses that we could see among the orange groves seemed small as compared with those on the sugar plantations, and the negro cabins were wanting.

This cultivated belt extends for about sixty miles below New Orleans, running back on both sides of the river to a depth of about half a mile. Beyond and below this what land there is cannot be cultivated, it is mere swamp and sea marsh, and floating prairie, whose hard bottom has not yet been discovered. Within this arable strip on each side of the river there is grown a considerable quantity of figs, and small quantities of lemons, citrons, bananas, and occasionally the pomegranate and persimmon.

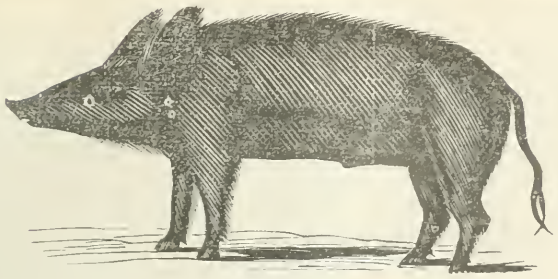
Late in the afternoon we passed out of the river and turned our course nearly due east across the gulf. Night comes suddenly in this southern latitude. We were scarce out of sight of land when the darkness shut us in. The next day was beautifully bright, the sky without a cloud, a strong breeze just rippled the water, which broke in a white foam from the steamer's bow as it ploughed its eastward track. At noon our captain took his observations and reported our position to be in latitude 28° 59′ north, longitude 85° 39′ west from Greenwich, the thermometer indicating 70° Fahrenheit. When night came on, and the "sentinel stars set their watch in the sky," we looked for our familiar northern constellations. They were bright as ever, but strangely low down towards the horizon, thus intimating to us that we were far from home. And now the water broke from our steamer's bow in waves that sparkled with phosphorescent light. It was a novel sight to a landsman. This morning the day broke bright and clear, and we threaded our way among the rocky islands as soon as there was light enough to find the channel, and tied up to the pier at Cedar Key. It was an unusual thing, so said our captain, for him to reach Cedar Key in time to connect with the morning train: but we were fortunate.

The village of Cedar Key seems to be a very small, quiet, dreary sort of place, whose most conspicuous objects are two hotels, on one of which we could read in large letters the words "The Suwanee." At once there came floating through the memory the long forgotten

'Way down upon de Swanee ribber,
Far, far away;
Dere's where my heart is turning ebber,
Dere's where de old folks stay.
All up and down de whole creation,
Sadly I roam,
Still longing for de old plantation,
And for de old folks at home.
All de world am sad and dreary,
Ebery where I roam;
Oh, darkeys, how my heart grows weary,
Far from de old folks at home.

We had little opportunity to examine this little place, built upon an island, the gulf terminus of the Florida Transit Railway, for our train was soon at the wharf to receive us, and we were on our way again. We afterwards learned that on one of the pretty islands that stud the entrance to Cedar Key, the Faber Brothers have a saw mill and machine shop which give employment to quite a colony in preparing cedar wood for the well known Faber lead pencils.

The country through which we passed for some time after leaving Cedar Key was mostly covered with tall pines of very slender growth, without branches save just near the top. The variety



FLORIDA HOG.

seemed to be Pinus australis, and the wonder was how such slender trunks could stretch away so high without toppling over. The soil had the appearance of being little else than pure, white sand. Here we had our first view of a Florida hog, an animal that we saw very frequently during our short sojourn, and of whose feats, in slipping through small cracks in a fence, we heard some surprising accounts. We here present you with a portrait of this singular animal taken for us by a capital artist, who has produced a striking likeness. Perhaps you may be disposed to import a small herd for the improvement of your Berkshires and Suffolks in the points of excellence for which this Florida hog is famous.

WHAT OUR READERS SAY.

I have received the *Canadian Horticulturist* the past year, and found in its pages many articles which are both interesting and instructive on Fruit, Flowers, Vegetables, etc. It should be in the hands of every man who takes an interest in Horticulture.

JAMES ROGERS,

Eversley.

All my apple trees have done well, all my pear trees except Clairgeau have done very well. Clapp's favourite has fruited two years, fruit large and very fine. Grape vines have not done very well with me. Burnet I think is tender, no fruit on any of them yet. Saunders raspberry I like very much; my Paniculata has done well; Mr. Lotan's plants have done reasonably well, his Ontario apple tree fruited, size medium, quality good, keeping qualities not tested yet. Report fuller next time.

JOHN MCINTYRE,

Appin.

I am now a subscriber to six newspapers, and were I compelled to give up all but one, that one would be *The Horticulturist*. I consider this one of the best investments a Fruit Grower or Gardener can make.

I heartily wish you every success.

J. H. WISMER,

Port Elgin.

I was years wishing to become a member of the Fruit Grower's Association, and now that I have become a member and seen the advantages, I regret not having become one fifteen years ago, at which date I commenced to take an interest in fruit-growing as an amateur.

GEO. MITCHELL,

Perth.

We had a very bad summer for frosts, which has totally destroyed the cranberry crop, but blueberries and raspberries were very good. I must tell you that the Wealthy apple tree, I got from the Association has made a fine growth

this year, and I am in hopes it will stand our winter. I may say here I have had bad luck getting the plants distributed, as they have missed getting to me three out of the four years, but I have been more than paid by *The Horticulturist* and the Annual Report. I am in hopes of getting our mails carried here by railway by another year, and then our mails will be carried more promptly.

W. Warnock,
Blind River, Algoma.

FENCES.

The agricultural community in Florida are fully alive to the importance of the fence or no fence question. Our exchanges from that state are full of communications on that subject, and the more it is discussed, the more clearly does it appear that the system of highway fences is an unnecessary and unjust burden upon the farmer, gardener, and fruit-grower. One writer in the Florida *Dispatch* says:—I have fifteen acres under cultivation. It requires one mile and a quarter of fencing to fence it. This costs $320.

I pay yearly on this fence for State, County, and City tax, as an *improvement*.	$ 8 00
Interest on cost of fence 10% per Ann.	32 00
Sinking fund for renewal once in eight years	40 00
Repairing and whitewashing yearly.	15 00
Yearly expense of maintenance	$95 00

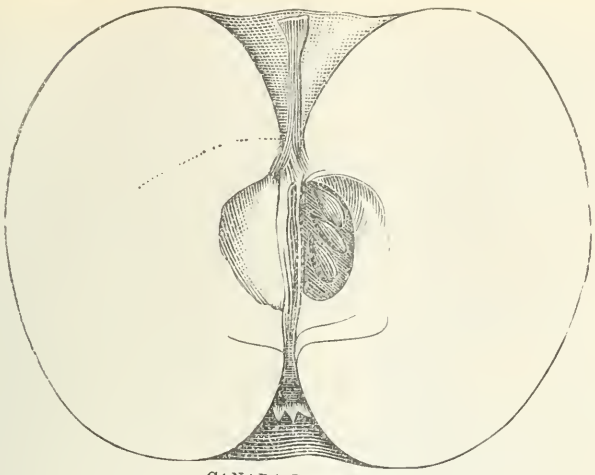
If our cultivators of the soil in city, town and country would only sit down and make a calculation of their annual outlay for fencing against other people's cattle, we feel confident they would not long submit to the unjust burden. Why should I be allowed to turn my cattle upon the highway at your expense? What right have I to put you to the expense of building and maintaining miles of fencing to protect your crops from my cattle? Is it any injustice or hardship that I should take care of my own animals, and not suffer them to injure my neighbour?

The Committee on Fences reported to the Fruit Growers' Association, see page 27 of Report for 1882, that the cost of fencing a farm of one hundred acres, divided in the usual manner, is $1,317.

The annual charge for maintenance is for interest at 6 per cent. on say $1,300	$ 78 00
Cost of repairs, and sinking fund for renewal, once in twenty-five years	78 00
Cost of same for gates renewed every ten years	9 60
Rent of land occupied by fence at $5 per acre	21 80
Total annual expense.	$187 40

Now this estimate was prepared under the advice of a thoroughly practical farmer residing in East Whitby, County of Ontario, and may be safely taken as a fair average calculation. In twenty years the fencing alone will have cost as much as many a hundred acre farm is worth.

But apply this to the country at large, and see to what extent the tillers of the soil are taxed by the unjust and unnecessary system of fencing that now prevails. The Township of London, in the County of Middlesex, having a cultivated area of seventy thousand acres, pays an annual tax for fencing of over $100,000; and the total loss to the agriculturists of Ontario who cultivate her nearly twelve millions of acres of cultivated land is not less than sixteen millions of dollars every year. How long will our people be content to bear this unnecessary burden?



CANADA BALDWIN.

THE CANADA BALDWIN.

It is believed that this apple originated in the orchard of Alexis Dèry, St. Hilaire, Rouville County, Province of Quebec. R. W. Shepherd, jun., of Como, says it is of the Fameuse type, and that his trees, six years planted, have proved quite hardy and productive; also that it does well on heavy soils. The tree is a vigorous, thrifty, upright grower, begins to bear when young, and produces alternately heavy and light crops. The fruit is handsome, of only medium size, oblate in form, the skin white, thickly striped with red and splashed with crimson. The flesh is very white, tender, fine grained and juicy, with a peculiar mild subacid flavor. It is in use from January to April. Mr. Shepherd says it is "one of the best of keepers." Mr. Chas. Gibb, of Abbottsford, Pro. of Que., says of it, in the fifth report of the Montreal Horticultural Society, page 86, that there is no bright red apple of fine quality, good size, and a long keeper, that can at all approach it in general satisfactoriness on the heavyish soils of North Shefford. He adds, that on the warm quick soil of Abbotsford, the early rising of the sap tends to sun-scald and premature decay, yet that notwithstanding this defect, they must plant it because they have no other to take its place, while on heavier soils he expects it to become widely popular. In the fourth report, page 120, he says the tree is of undoubted hardiness, and that in cold, and even wettish soils, where Fameuse placed alongside have died, it is a success both in trees and fruit. Dr. Hoskins, of Newport, Vermont, says of it, "productive, fruit of very good quality, and well adapted for transportation, a good keeper, and attractive. Faults, want of size, and lack of adaptation in the tree to any but heavy soils."

Because this apple seems to be likely to be of value in the cold north, the

Directors decided to offer a yearling tree of this variety to such of the subscribers to the *Canadian Horticulturist* as would like to give it a trial. Those who reside in the portions of our country where only very hardy fruit trees can be successfully grown, may find it a profitable sort.

The accompanying cut will give our readers a good idea of the size and form of the Canada Baldwin.

FRUIT IN 1883.

The following account of the fruit crop, for 1883, is taken from the Agricultural Return, published by the Ontario Bureau of Industries for November of that year.

The importance of the effort now being made to introduce the hardy fruits of North Eastern Russia in order to supply the northern districts of the Province with trees that will endure the severe winters of that region, is made very apparent in the closing paragraph of the report given us by the Bureau of Industries.

The Bureau returns state that fruit of every kind in the Lake Erie counties has, this year, given a very poor account of itself. At first the long cold spring retarded growth; then came a succession of heavy rains with chilly east winds, which almost entirely stripped the trees of their blossoms. The result was a fine growth of healthy wood, and a very meagre crop of very poor fruit. Most counties did not raise even enough apples for home consumption; and most of the little they had were scrubby, spotted and wormy. Peaches, though not such a dismal failure, were by no means satisfactory; there were a few good bearings, however, near the lake shore in Norfolk and Elgin. The old demon of the plum tree, black-knot, has this year played havoc with cherry trees also; and the plum crop has suffered almost complete destruction from the other enemy, the curculio. Frost, cold and mildew have greatly reduced the grape yield. It is worth noting that fruit trees sheltered from the east winds generally bore well.

The Lake Huron counties had a surplus of apples for export, some of which were shipped at Seaforth to Manitoba. Plums suffered severely from the curculio in Lambton, from black-knot in Huron, and from September frost in Bruce; still there were good surpluses in many localities. From Bruce comes a complaint of a blight that attacked the trees in July, causing the leaves to drop off.

A similar blight was very injurious to plums and pears in the county of Grey. Frost also did considerable damage in the southern townships. The curculio was active in Simcoe, yet in the two counties there was a fair surplus of plums. Apple tress, though healthy, blossomed late, and the crop was generally light. Grey, however, showed a good surplus—between Meaford and Owen Sound some 6,000 barrels having been exported.

Throughout the West Midland district fruit trees generally are healthy, and have made considerable new wood during the season. Cherry trees in the western counties have almost completely succumbed to the assaults of black-knot. In Perth and Wellington fruit of all descriptions is very scarce. Portions of Middlesex and Oxford have grown a small surplus of apples. Brant has a sufficiency of all fruits, except cherries. Dufferin has a surplus of plums, but late fruit in this county was somewhat injured by frost.

This year has been a decidedly lean one for fruit in the Lake Ontario counties. The principal cause of failure elsewhere—the cold wet weather of the blossoming season — operated fatally here also. Prince Edward has been the most fortunate county of the group, yielding a surplus of apples, pears and plums; and some localities near the lake in other counties have done fairly well. In South Ontario plums, pears and small fruits have been moderately plentiful. Plums, indeed, have shown a surplus in nearly all the counties of the group; though black knot has been highly destructive of trees in Peel, Halton and Wentworth. But apples are very scarce everywhere, and are blighted and wormy. Grapes are a poor crop; they failed to ripen, owing to frost and mildew. Lincoln is the only county that produced a surplus of peaches. The wet season, while so injurious to fruit, was conducive to a strong, healthy growth of young wood.

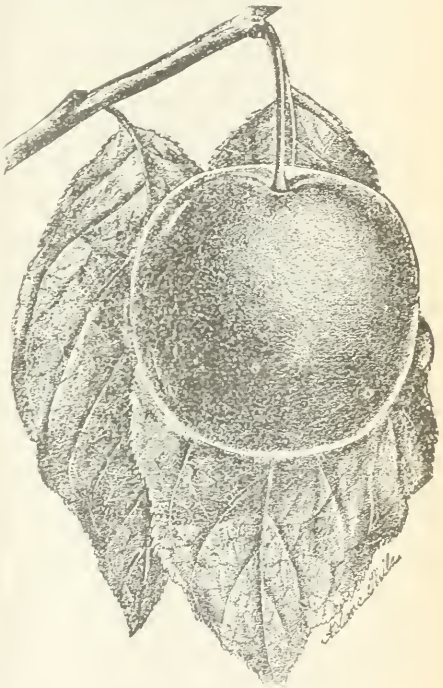
The St. Lawrence and Ottawa counties tell the same story of failure, from the same general cause—the cold, wet spring, and the shortness of the ripening season. Plums are the only fruit in surplus, and these chiefly in the western counties of the group. The apple crop is very light; in some northern localities the fruit was attacked widely with black scab. Seedling apples are said to have succeeded better than grafts. A severe early frost destroyed many grapes, and most of what remained failed to ripen owing to the shortness and coldness of the season.

Fruit trees in the East Midland counties are healthy and are growing well, but the fruit is precarious. Plums and crab apples are the only kinds produced in surplus. Black scab is very injurious to apples.

Few and feeble are the attempts made at fruit growing in the Northern districts; the trees cannot, as a rule, stand the severe winters. Crab apples yield plentifully, but there is little of anything else.

THE MARIANNA PLUM.

As attention is being directed to the best varieties of the native plums, because of the greater hardiness of the



Marianna Plum.

trees and their consequent ability to withstand the extreme cold of northern latitudes, we copy from the Farm and Garden the following description of another new sort:—

This new fruit is an accidental seedling. Tree, a rapid and uniform grower; straight stem; lower branches nearly horizontal, and becoming more upright towards the top, forming a compact and symmetrical head. It never suckers and is entirely free from insects. Fruit round, a little

larger than the Wild Goose ; rather thick skin, a deep cardinal red when fully ripe ; stone small and fruit of fine quality, persistent, and not liable to be blown off by high winds. Ripens two to three weeks before the Wild Goose, and continues in fruit three to four weeks.

This fruit is entirely free from the ravages of the curculio and other insects; bears uniformly heavy crops in all seasons.

We believe it originated in Texas. Whether it has yet been tried in very cold latitudes, we are unable to say.

THE CABBAGE WORM.

If you consider the following worth space in your publication you may give it to your readers. I have seen so many plans for killing the cabbage worm, and tried them, none come up to this simple and effectual remedy. Take air slack lime, finely powdered, dust it on the cabbage, it will run down the leaves to the stock, and no more grubs will be seen for some time. If they do appear again, another dose will not be hard to apply, wont hurt the cabbage if not too heavily applied. Road dust has been recommended, but if limestone was not in the road dust it is useless. I have no hesitation in saying, air slack lime is the best thing to put on cabbage. I tried it, and want no other remedy.

ROBERT KENNEDY,

Bethany.

HARDY PEAR TREES.

Dr. Hoskins, of Northern Vermont, writes to the *Rural New Yorker*, that the Flemish Beauty has proved as hardy with him as the Snow Apple tree, and that Clapp's Favourite Pear is yet more hardy. The Onondaga, also, he has found to be hardy. The two last mentioned had passed through five hard winters without the loss of a single bud. Beurre d'Amanlis also has proved itself a very hardy tree.

SUNFLOWER SEED.

Doctor Sturtevant, of the New York Experimental Station, has been experimenting with sunflower seed, with the following results :

The station crop of 1883 occupied a plot of 1–20 acre area, and was planted four kernels in a hill, the hills forty-two by forty-four inches apart, and was cultivated during growth the same as corn. The soil received at the rate of 400 pounds of superphosphate to the acre. Planted May 18th, vegetated May 31st, harvested in September, and the seed beaten out and measured, and weighed October 25th, the yield being two and one-half bushels, or fifty-seven and one-half pounds ; expressed in acre yield, fifty bushels, or 1,150 pounds, the seed thus weighing twenty-three pounds per struck bushel. An inspection of the growing crop made it quite evident that thicker planting would have been productive of a larger yield.

From not having facilities at the Station for expressing the oil, we must be content with the results of analysis. Dr. S. M. Babcock found the seed to contain 20. 52 per cent. of oil in the air-dry seed. One hundred seed in air-dry condition weighed 187. 7 grains, and contained 49.1 per cent. of husk and 50.9 per cent. of kernel. The complete analysis is below :—

	AIR-DRY.	DRIED.
Water	12.68	. ..
Ash	3.00	3 43
Albuminoid (N. x 6.25.	15.88	18.19
Crude fiber	29.21	33.45
Nitrogen-free extract..	18.71	21.43
Fat (ether extract....	20.52	23.50
	100 00	100.00

The sun-flower crop, however, has difficulties in the way of curing. As the plant ripens late in the season, the

heads must be placed under cover to prevent waste, and they contain at this stage much water. We dried our crop by spreading the heads upon a floor, without piling, and as some of the seeds were sufficiently dry they were shelled out.

As this has been a very late season it is possible that in a more favourable year the seeds might be shelled off at the time of harvest.

THE ATLANTIC STRAWBERRY.

This is what *The Farm and Gardner* says about this new strawberry. It is interesting to note the opinions of editors who have been favoured with a taste.

Wm. F. Bassett, of Hammonton, N. J., brought to us some specimens of his new seedling strawberry, the Atlantic. It is indeed a fine berry, with perfect blossoms, ripening about a week later than Wilson, larger and of a long, conical shape. Its most attractive points are its brilliant, rich colour, shiny surface, sweet and fine flavour. It is claimed to carry well, and a minor point in its favour is its bright green hull, which is attached so firmly that it does not pull out in picking. The vine is a vigorous grower, and productive.

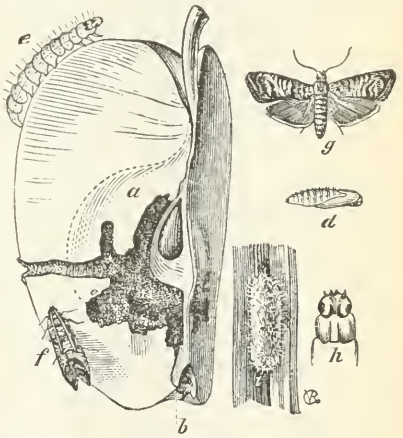
CRYSTALIZED FRUIT.

Messrs. Bernard & Benedict, of Los Angelos, California, are making a speciality of Crystalized fruit.

The fruit, whether white figs, black figs, oranges, pears, peaches, or other fruits—those being the principal ones used—is first relieved of its skin and sliced, after which it is placed in trays to dry a little. Next they are dipped in water in which sugar is dissolved, then placed on trays of wire gauze, and put in the place where they are dried and become crystallized. It takes two or three days to complete the process, as they are subjected to a slow heat in order to make them as nearly perfect as possible; and they are nearly so. The arrangement of the drying apparatus was invented by the proprietors, is admirably arranged and heated by coal-oil stoves in zinc partitions underneath, by which the heat is thoroughly regulated. —Los Angelos *Herald*.

THE CODLIN-MOTH AND THE CURCULIO.

It was asked at a recent Horticultural meeting in Michigan, whether it would pay to spray the apple and plum



Codlin Moth.
(*g*) Moth with wings expanded.
(*f*) Moth at rest.
(*e*) Full-grown worm.
(*d*) Chrysalis.
(*h*) Head of worm magnified.
(*i*) Cocoon.

trees with Paris-green or London purple for the purpose of preventing the ravages of the codlin-moth on the apple, and the curculio on the plum. In reply to this Mr. Cook stated that he had experimented on plum trees by spraying with Paris-green and water, and that he found no curculio on those trees for several days after making the application; while on surrounding trees he

could find plenty. Prof. Beal had said that the codlin moth could be destroyed in the same way. That the moth deposits its eggs in the blossom end of the young fruit, and that the worm, as soon as it is hatched, eats the poison and is killed.

Allan Brunson spoke of a friend of his who saved his apple crop by the use of London-purple, while his neighbours had no apples. Mr. Cook cautioned fruit growers against the canker worm next spring, and stated that they could be exterminated by spraying with Paris-green or London-purple.

Mr. J. M. Eamans said that Prof. Cook, of Lansing, recommended a teaspoonful of Paris-green to a pail of water.

BEST MELON FOR MARKET.

By Thos. D. Baird, Greenville, Ky.

In buying melon seed to raise for market there should be three points considered—size, quality, and productiveness. Select the variety that has the largest share of these good qualities combined. A melon may be of the largest size, but may bear so few melons to the vine that they cannot be grown at a profit, at least not as profitable as some not so large in size. Again the quality may be so poor that they may be a drug in market. Or a variety may be very productive, but so small that but few will be fit for market.

After several years experimenting with different varieties I find the following varieties combine the most good qualities :—

Shumway's Silver Netted Canteloupe is of fair size, very productive, thick, green flesh and a most delicious melon: but its market value is not equal with the Bay View, a new melon. This fine melon occupies an enviable position in the list of luscious melons. It is by far the finest flavoured melon I ever ate of its size. Flesh deep, deliciously rich and sweet, of a green colour; skin russet colour, very handsome and attractive in appearance. But for *size* and *thickness* of flesh, I have never seen anything of the melon tribe equal to the Montreal Green Nutmeg. The fruit with me was nutmeg shape, deeply and regularly ribbed, skin green and densely netted, flesh green, rich, and delicious. For a small melon I have never seen as heavy nor as delicious a melon as Burpee's Netted Gem. I would advise a trial of it believing it will please.—*Farm and Garden.*

IMPROVING FARM HOMES AND GROUND.

The immediate surroundings of farmer's homes generally are far from being as attractive in appearance as they could easily be made. Indeed the rural front yards are, as a rule, much less beautiful and interesting than those of people in the same general circumstances in towns and cities. In the latter, lawns are well cared for, and choice ornamental trees, shrubs, and flowers, are much oftener met with than about country homes. There is no valid reason for this. Such embellishments are not more easily acquired in the city, but just the reverse. The farmer has teams, implements and manures for putting the house grounds in the best condition for ornamental treatment; labor is quite as cheap as in town, while sodding a lawn costs far less in the country. Trees and plants are as cheap to the farmer as to any one, while in many places some of the best kinds of ornament can be had from the woods for the digging.

There may be points in which life on the farm lacks the attractions common to town life, but in charming home grounds the farmer is certainly to blame if the city dweller excels him. It is often wondered why country life has

not charms sufficient to hold the boys to the farm, and that they grow up longing for the city. If more attention were given to making their home surroundings more cheerful and attractive for the sons and others of the family, there would be less heard of this trouble. And in all such work every proper effort is sure to be seconded by the wife: while nothing is more natural than for the children to be enthusiastic helpers in this work. Such improvements of course require some outlay, but this can hardly prove otherwise than a good investment. Every dollar judiciously spent in this way will soon be returned many fold in the increased valuation of any place, should it be desirable to sell, to say nothing of the greater happiness and love of home that will thus be inspired.

Now that long evenings are at hand, this subject should receive due consideration. Plans may be drawn up for an improved arrangement of walks, drives, flower beds, shrubbery, borders, and other matters. Every detail of these can be decided upon, and entered upon a map, long before winter is over, so that when spring opens the work can go on intelligently and to the best advantage,—ELIAS A. LONG, Architect. *in American Agriculturist.*

GRAPES AND TEMPERANCE.

Grape juice is so scarce, that out of the State of California the adulteration of wines is almost universal in our country. Recipes for making wine of any brand, and of any age, without a drop of grape juice, are well known to some wine dealers. The prohibitionists, from Maine to California, and from the Lakes to the Gulf, want more vineyards and more grape juice, and welcome grape culture as well as all other fruit culture, as a powerful adjutant to their reform. When the villagers and the rural cultivators can literally sit under their own vine and fig trees, when the tempting clusters of the vine in the fresh state, are upon the poor man's table for six months in the year, when grape juice in its various preparations is among the family stores in every household, the enticements of the grog shop will have lost many of their charms.—*American Agriculturist.*

THE CALLA LILY.

Planting out Calla Æthiopica in summer needs only one trial to prove its superiority to keeping it in pots, for even the smallest single crowns put

CALLA LILY.

out in May or June develop into fine sturdy plants by September. It is such a strong rooting plant that it will succeed in any fairly good soil, and good plants even when out of flower are ornamental. For general purposes single crowns are best, but large specimens for entrance halls or conservatory decorations are desirable, and few plants last longer in good condition in unfavorable positions than this Calla.—*The Garden.*

WOOD ASHES.

Wood ashes are one of the most valuable fertilizers that a farmer can apply to his soil. Ash from the wood of the beech is said by chemists to contain 96 lbs. of potash, 33 lbs. of lime, 6 lbs. of magnesia, 3 lbs. of phosphoric acid besides sulphuric acid, to the bushel of 60 lbs. From this it will be seen how great their manurial value is. For root crops of all kinds, grasses, clover,

etc., they will be found just what is needed to stimulate and feed the crop. The ash is the mineral element of any vegetable structure, and therefore indispensable to its growth. The farmer who will sell his ashes, is actually parting with so much of the fertility of his farm. As an application to reclaim marsh land, the effect of ashes is often wonderful. The burnt lands in the Huron peninsula will have their productiveness greatly increased by the burning of the forests that covered them; and farmers there will receive great benefit in the future from the clearing of the lands and the depositing of the ashes from the burned forest upon them.—*Michigan Farmer.*

THE WAX PLANT.

(*Hoya carnosa.*)

Next to the English Ivy, I know of no climbing plant better adapted to culture in ordinary living rooms than the Hoya, or Wax Plant, as it is more popularly known. It grows rapidly, has fine foliage, blooms profusely, and has beautiful flowers, and is easily kept clean, because its thick, leathery leaves can be washed as well as so many pieces of china, with much less danger of breaking them, and its stems are very tough, so that there is but little danger of damaging them in taking down the plant and putting it up again whenever a bath is given it. If it is trained where it is convenient to get at the leaves, it will not be necessary to take it down in order to give it a washing. The only insect that has ever troubled my Hoya is the mealy bug, and I exterminated him by persevering warfare with a hair pin, ruthlessly dislodging the little pest as fast as he found a new location.

You will often see inquiries in papers to this effect: My Wax Plant is a year or two years old, and doesn't grow. Can you tell me why? Perhaps Hoyas take to growing only when they become well rooted, and perhaps it takes most of them a year or two to get in that condition. I don't know how that is, but I know that I have owned three, and I have never had one make much growth before the second year. I have always raised my plants from cuttings, taken from half ripened wood. Each cutting generally has three or four leaves attached. These cuttings I have struck by inserting them in sand kept wet and warm. The roots will make their appearance in two or three weeks, and in a month or six weeks I pot the plants in a soil composed of one-third leaf-mold, one-third garden soil, and one-third turfy matter from under old sods, with a handful of sand added to each six-inch pot. Usually, the Hoya plant will put out a few new leaves, just enough to show you that it is alive, but I have never had my young plants send up any stems until the second year. When they do begin to grow, they grow very rapidly. My last plant began growing when it was about eighteen months old, and sent up eight stems which averaged eight feet in length in less than five months.

The stems will twine about a string or wire, and need but little training. Whatever support you give them must be quite stout, for a branch with a good many leaves on it is heavy.—*The American Garden.*

A THOUSAND CLUSTERS OF GRAPES FOR ONE DOLLAR.

On one of these vines we have just counted two hundred and forty-six bunches of grapes, nearly all fine ones, and the dwellers tell us, "a great many have already been picked and eaten." A whole row of hanging clusters still fringes the upper front of the piazza; the cross trellis is black with them, and

they abound by the bushel along the border trellises and fence. There are not less than two thousand fine bunches in all. The annual cost of having these vines trimmed and trained, and putting on a dressing of bone dust, does not exceed two dollars, which is ten-fold repaid by the shade, and the green foliage to look out upon during all the parching days. We might have headed this: "A thousand clusters of grapes for nothing!"

A grape-vine will grow anywhere that it can get a small foot-hold in a bit of soil; it will run up on anything that its tendrils can cling to; it will help itself to sunlight and food from the air and earth. If you have a yard of ground plant a grape-vine on it, in city, village, or country. Do it now, or certainly next spring.—Orange Judd, *in American Agriculturist.*

SULPHUR FOR MILDEW, PEAR BLIGHT AND YELLOWS.

Professor D. P. Penhallow, writing to the *Country Gentleman* on the effects of sulphur upon plants, states that its well-known value in averting the development of mildew is due to a slow process of oxidation resulting in the formation of sulphuric acid. The fungus is killed by this process of oxidation in the sulphur when in contact with the parasitic plant, and by the formation of sulphuric acid. But he argues that the sulphur must first be changed into sulphuric acid and then unite chemically with some base, as potash or soda, thus forming a soluble salt that can be readily absorbed by the plant, in order to be brought into the general circulation of the plant. That in this form it does enter plants and perform important functions as a medical agent, it being probably sulphuric acid in combination with potash that acts as a curative in pear blight, so that perhaps sulphur, as sulphate of potash, is the specific for pear blight, while careful experiment seems to indicate that chlorine, as muriate of potash, is the specific for peach yellows. And adds: In any case, a vigorous tone in the general system, as developed by proper food and care in cultivation, will do fully as much good as any other method of treatment applied separately, and one of the finest evidences of this was found in the case of a vineyard which, although seriously mildewed, was able to withstand the attacks of the fungi and produce a fine crop, by reason, solely, of the special cultivation and application of fertilizers which had been given it. Internal applications, therefore, do not directly act upon the parasites, but by toning up the system, render their excessive growth improbable.

THE CARP AS A FOOD FISH.

There is much inquiry concerning the German Carp introduced into this country by the United States Fish Commission. People want to know where it will live, how fast it will grow, and generally what it is worth now that we have it. Often as these questions are answered they come up again, and in truth, the different results reported are confusing unless accompanied with an explanation. Carp are not a first-class table fish, but they are immensely superior to no fish at all, when a fish dinner is wanted. They are not as good to eat as the bull-head for instance, but then it may be said that the bull-head is a very excellent fish when well understood. So the Carp can be made a toothsome feature of the dinner table, if the mistress of the kitchen comprehends the mysteries of the sauceboat. Without that skill, which by the way is universally possessed by our adopted German fellow citizens, and can be learned from almost

any of them, the carp is rather tasteless. In very cold spring brooks carp will not grow at all, they rather seem to shrink, if we can imagine a fish shrinking with the cold. But in warm waters, especially in the Southern States, where there is no trouble with frost, they attain an enormous size quickly. There have been instances of their growing to seven pounds weight in two years, which far surpasses anything known of any other species of fish. In the North, if the ponds have hard bottoms and freeze their entire depth, the carp will be killed. But if the bottom is soft and muddy they will burrow into it and protect themselves. They are said to feed on vegetables, either the natural growth in the water, or the refuse from the garden, but I imagine they are greatly improved by an occasional taste of the numberless insects that are found on all aquatic plants. The same rule applies to them that is found to govern in all other departments of nature: the best is always the hardest to get. Not only will carp never supply the place of trout, but they will hardly live in the same water. They need little care, and will exist on poorer food, are content in less fine water, and they are in the end an inferior fish. The common proverb says that whatever is worth having is worth working for, and that, translated into fish literature, means that an ordinary variety is more easily maintained than a superior one. Still there is always more need of the lower class. Few men eat trout, more eat shad, and infinitely more use cod, while the ponds that are adapted to trout, are not as one in a hundred to those fitted for carp. Any old sluggish pond, above a mud-hole, will answer for them. In conclusion, it is almost self-evident that carp are no more a game fish than a fattened hog is a game animal. Carp can generally be procured through the State Fish Commissioners, and several breeders offer them for sale. —Robert Barnwell Roosevelt, *in American Agriculturist for January.*

DOUBLE-FLOWERED GOLDEN FEATHER.

The pretty lace-leaved Golden Feather, usually called Pyrethrum aureum laciniatum, has proved with us to be the best white flowered bedding plant we have. Without any attention, it has been a dwarf and compact mass of white flowers the whole season, and the flowers are so freely produced that one can scarcely see the foliage except at the margin of the beds, where the pale, lemon-coloured leaves make a pretty fringe. I am by no means enraptured with Golden Feather, seeing it is so overdone in many gardens; but white flowers have so softening a character amongst brilliant summer blossoms, that any plant is welcome which produces them freely, and I feel sure that any one giving the double Pyrethrum a trial—not as a foliage, but as a flowering plant—will be well satisfied with it. It keeps sending up a continuous succession of flowering shoots from the base in such a way that a dense mass of double button-like flowers is produced the whole season. It is as easily raised from seed or by division of the old plants as the ordinary form; but whereas old plants are of very little service in a fine-foliage point of view, from their running up to flower so persistently, in this case they are very useful. In a cut state this plant is also serviceable. The shoots average from 9 inches to 1 foot in height; and, as white flowers are so effective in all kinds of floral decorations, a plant that produces an unfailing supply is ever welcome, whether for beds or borders.—*The Garden.*

TAKE CARE OF YOUR ORCHARD TREES.

When the owner visits his young orchard after the snows have melted away in spring, he often makes the disheartening discovery that many of his trees have been girdled by mice or rabbits. Judging from our own correspondence, the damage by these animals must in the aggregate be very heavy.

Fig. 1.

The first thing to be done is to examine the extent of the injury. Frequently it is not so bad as it looks, and the inner bark is not entirely removed. If this covers even a fourth of the wounded portion, and connects the bark above the wound with that below it, the chances are that the wound will heal if drying can be prevented. The ordinary grafting wax, applied on old, worn cotton cloth, or on paper, as used in grafting, should be applied over the injured portion. This, especially on quite small trees, will prevent all evaporation. Another application is the old grafting clay, made by thoroughly mixing and beating together stiff clay with half as much cow manure. Apply this over the wound quite thickly, and fasten it in place by wrapping with an old cloth and tying with strings. If the inner bark is completely gone, nothing remains but to bridge over the wound with scions, and thus restore the communication between the roots and the top. The scions may be taken from the same tree if they can be spared, or those from another of the same kind will answer as well.—*American Agriculturist.*

Fig. 2.

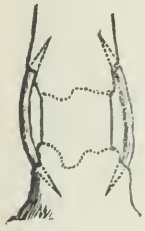


Fig. 3.

Figure 1 represents the tree completely girdled and the inner bark removed, and figures 2 and 3 shew the manner in which the girdled portion is bridged over with the scions.

CHINESE FARMING AROUND SAN FRANCISCO.

The Chinaman began his usefulness as a market gardener in and around San Francisco nearly thirty years ago, in the days when the Americans had greater treasures to dig for in the earth than vegetables. Men enjoying the prospect of turning up a gold mine with their spades, were not likely to apply them to a potato patch. Yet these men had to eat, and others, not above the humbler occupations, worked to feed them. The first of the Chinese vegetable farmers throve so well that other compatriots followed suit, and the housewives of San Francisco soon became familiar with the queer yoked figures and their heaped-up baskets, who announced their coming with a shrill cry, not unlike that of a New York milkman. At first each farmer made his first day's trade on the contents of two baskets. Then the more enterprising hired men to carry additional supplies. The farmer himself always led, and still leads, the van in these processions, which number from two to a dozen men. He carries the same burden as his hired hands, and does the bargaining for them; and as their baskets are emptied they are sent to the rear, instead of back to the farm to work. The procession leaves town as it entered it, in single file, while the usual chatter is still continued, as if keeping time to the pattering of their slipshod feet.

The buisness has expanded until some Chinaman now come in daily with several wagons or droves of pack donkeys; but the majority of them continue to do business on a moderate scale because lacking the means to amplify it.

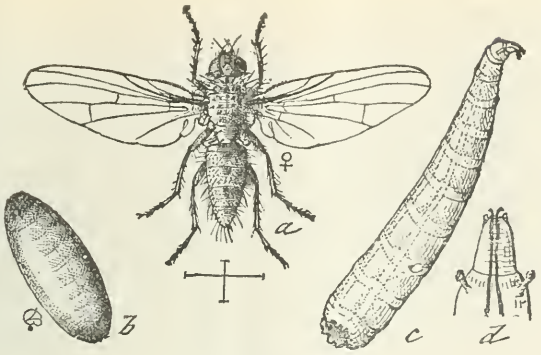
The Chinaman farmer lives on the most economical basis, and does his cultivating on strips of waste land, by roadsides, and on hillsides so abrupt and naturally sterile that the white man never dreams of ultilizing them; also down in ravines and gullies which he had to reclaim from the original wilderness. We remember one Chinese farm in a deep and once savage gully, which used to be the bed of a creek that the spring floods transformed into a furious torrent. On one side, the railroad passes over a steep embankment; on the other is an abrupt and rocky bluff. By damming the creek at the head of the gully and diverting the water down the hill range of which the bluff is a part, the ingenious Mongolian has turned the bed of the ancient torrent into a productive farm, and so fertilized the barren slope that he can raise a crop upon it also. He utilizes every available foot of ground. He will even build his house on piles over a creek, or on stilts beside an embankment, in order to save surface soil he finds so precious.

All his farm work is done by hand, usually on the methods of his native country. His vegetable farms are as neat and trim as the great flowerstudded gardens of the millionaires whose tables he helps to supply. He has, apparently, measured the productive capacity of the earth to an inch, and crams more into a given space of soil than would seem credible but for the fact itself.

His system of cultivation seems to be as mathematical as his calculation of the resources of his plot. He measures the ground in feet and inches instead of by acres and roods, and allots spaces to his beans, potatoes, peas, tomatoes, cabbages, etc., in porportion to the demand for them; and he never cultivates anything for which there is not immediate call. Wheat, grapes, and fruit do not seduce him, they require too much space and care; the competition in them is too great, and the market too fluctuating. He works not for the whole world, like the farmers who have made the State famous, but for a single city whose denizens must have a certain amount to eat each day. So his venture is a sure one, and only a rare convulsion of nature can impair his prosperity. An earthquake, or a landslide, or a season of heavy rains, may cut into his profits, but the climate is so friendly that it soon repairs the ravages. His crops are perennial, too. When one product is not flourishing, he manages to have another that is in season, and he thus keeps busy all the year round.—A. TRUMBLE, *American Agriculturist.*

THE CABBAGE MAGGOT.

One of the first things that the newly-fledged market gardener invests in is an early cabbage patch, and the less his experience, the larger is his plantation. Two of my horticultural friends have planted largely this spring, and the other day (the only sunny afternoon in two weeks) one of them came to me with a very sober and lengthened visage to inquire what ailed his cabbage; some small white grubs, or properly speaking maggots, were at work at the roots of his cabbages, giving no hint of their ravages until the drooping and withering of the plant gave evidence too late of the mischief that was being wrought. To see whole rows of cabbages that had reached their second hoeing, succumb to an unseen and apparently invincible foe was certainly discouraging, and I did not blame my



ANTHOMYIA BRASSICÆ.

a. The female fly magnified. The cross lines show the natural size.

b. The Chrysalis magnified.

c. The maggot magnified.

friend for looking downcast, for he had considerable invested in time and manure and land.

It seems that there is an extensive family which pass their maggot or larval life in preying upon our early vegetables. The family name is *Anthomyia*. The *Anthomyia raphani*, or raddish-fly, is so nearly like the common house-fly, as to be easily mistaken for that ubiquitous individual. It lays its eggs at the crown of the young radish, and the maggots hatching therefrom work speedy devastation to the root.

A. brassicæ is the cabbage-fly, and differs from *raphani* in being smaller and brighter colored. One writer says "it is found through the summer, and is the parent of a maggot which has been known to lay waste whole fields of cabbages by diseasing the roots on which they feed, as well as the base of the stalk." Successive generations are feeding until November, the latter families lying in the pupa state through the winter, and probably some of the flies survive that season secreted in holes and crevices

"When the cabbage leaves assume a leaden or yellow color and droop in mid-day from the effect of the sun, such plants being diseased should be taken up, carried away and burned, and brine or lime put in the holes. Gardeners in some instances have collected large quantities of the pupa by drawing away the earth from the roots."

The *Anthomyia* unlike house and blow-flies, dislike intense smells, and the means of their prevention or destruction is found in this fact. The radish-fly is prevented from depositing its eggs around the young plants, by sprinkling the bed with diluted carbolic acid at intervals of a few days. The method of dealing with the cabbage maggot is thus described by Prof. A. J. Cook :

"A small hole is made near the cabbage with a walking-stick or other rod, and about one-half a teaspoonful of the liquid—bi-sulphide of carbon—poured in, when the hole is quickly filled with earth and pressed down with the foot. In every case the insects were killed without injury to the plants."

The bi-sulphide of carbon is very volatile, and if not carefully corked will throw off vapour which readily ignites and explodes when brought in contact with fire. It will be seen that two different methods are used, that for the

radish-fly being a preventive, the carbolic acid odor driving away the mother fly and preventing her from depositing her eggs.

In the case of the cabbage, the application is made to kill the maggot after hatching, or at the time of hatching, and should be applied at once to *all* the plants as soon as it is known or suspected hat they are present. I do not see wh a preventive cannot be used in the case of the cabbage *anthomyia* as well as others.

Those who have used superphosphates, especially the very strong-smelling sorts, claim that they are very obnoxious to all kinds of insect pests, and pay for themselves in this way for garden use. The cost of bi-sulphide of carbon is forty cents per one pound bottle. A druggist told me that one pound would make about 250 half-teaspoonfuls.—L. H. Pierce, in *Ohio Farmer.*

DOUBLE ROSE-COLOURED MYROBALAN PLUM.

Here we have a hardy flowering tree which is likely to prove one of the most important introductions to our gardens of late years. It was, it seems, brought over to the last international exhibition at Paris by the Japanese gardeners who showed their products there, and was by them given to M. Baltet, of Troyes. M. Baltet thus writes concerning it: "This shrub, which is very hardy and vigorous, is covered early in spring with numerous large sweet-scented flowers disposed in thickly-set bunches. It is of good habit, the leaves tolerably large, being of a lively green, edged with bright carmine, the eyes and the leaf-stalks being coloured in the same manner. It flowers very early, three weeks before prunus triloba." M. Carrière observes "that this description fails to convey an adequate idea of the beauty and merits of this plant, and that the beauty, size, and fine colour of the rose-coloured flowers place this in the very front rank of hardy ornamental plants." This, though high, is doubtless well-merited praise, as its great beauty is supplemented by exceptional precosity, flowering as it does much in advance of all other kinds, a fact which will be sure to give it an important place amongst forcing shrubs, the more especially as it is of a vigorous, but at the same time very floriferous nature.—*The Garden.*

ONTARIO TREE PLANTING ACT.

As some of our readers have requested us to publish the law relating to tree planting we now give the same as passed by the Legislature of Ontario.

Her Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows :—

1. This act may be cited as "The Ontario Tree Planting Act, 1883."

2. Chapter one hundred and eighty-seven of the revised Statutes of Ontario is hereby repealed.

3. Section four of this Act shall not apply to any incorporated city, town or village, unless the council thereof first passes a by-law making the same apply thereto.

4. Any person owning land adjacent to any highway, or to any public street, lane, alley, place or square in this Province, may plant trees on the portion thereof contiguous to his land; but no tree shall be so planted that the same is or may become a nuisance in the highway or other public thoroughfare, or obstruct the fair and reasonable use of the same.

(2) Any owner of a farm or lot of land may with the consent of the owner or owners of adjoining lands, plant trees on the boundary lines of his farm or lot.

(3) Every such tree so planted on any such highway, street, land, alley, place or square, shall be deemed to be the property of the owner of the lands adjacent to such highway street, lane, alley, place or square, and nearest to such tree; and every such tree so planted on the boundary line aforesaid shall be

deemed to be the common property of the owners of the adjoining farms or lots.

(4) Every tree now growing on either side of any highway in this Province shall upon, from, and after the passing of this Act be deemed to be the property of the owner of the land adjacent to such highway, and nearest to such tree, shrub or sapling.

5. The council of any municipality may pass a by-law for paying out of municipal funds a bonus or premium not exceeding twenty-five cents for each and every ash, basswood, beech, birch, butternut, cedar, cherry, chestnut, elm, hickory, maple, oak, pine, sassafras, spruce, walnut, or white wood tree, which shall, under the provisions of this Act, be planted within such municipality on any highway, or on any boundary line of farms as aforesaid or within six feet of such boundary.

(2) Such by-law shall further provide for the appointment of an inspector of trees so planted; for their due protection against injury and against removal by any person or persons including the owner, excepting as authority may be given therefor by special resolution of the council; for the conditions on which bonuses may be paid; and generally for such regulations as are authorized by chapter one hundred and seventy-four of the Revised Statutes of Ontario, section 454 (16).

(3) Printed copies of the said by-law, together with sections four, five, six and seven of this Act, shall be posted throughout the municipality, and all claims made to the council under the provisions of the by-law shall be referred to the inspector to obtain proof of the same and report thereon.

6. The Inspector shall make to the council one report for each year, if required so to do, giving the names of all persons entitled to any bonus or premium under the by-law, the number of trees of each species planted, and the amount of bonus or premium to which each person is entitled, and certifying that the distance between any one tree and the tree nearest thereto is not less than thirty feet, that the trees have been planted for a period of three years, and that they are alive, healthy and of good form; and upon the adoption of such report the bonuses or premiums shall be paid.

7. The Treasurer of the Province, upon receiving a copy of the inspector's report, certified by the reeve and clerk, shall recoup to the treasurer of the municipality one-half of the sum paid by the municipality under the authority of this Act, the said copy to be forwarded on or before the first day of November in each year.

8. The sum of fifty thousand dollars is hereby apportioned and set apart for the object of the foregoing section, and shall be known as "The Ontario Tree Planting Fund."

9. Any person who ties or fastens any animal to or injures or destroys a tree planted and growing upon any road or highway, or upon any public street, lane, alley, place or square in this Province (or upon any boundary line of farms, if any such bonus or premium as aforesaid has been paid therefor), or suffers or permits any animal in his charge to injure or destroy, or who cuts down or removes any such tree without having first obtained permission so to do by special resolution of the council of the municipality, shall, upon conviction thereof before a justice of peace, forfeit and pay such some of money, not exceeding twenty-five dollars besides costs, as such justice may award, and in default of payment the same may be levied of the goods and chattels of the person offending or such person may be imprisoned in the common gaol of the county within which the municipality is situated for a period not exexceeding thirty days.

(1) One-half of such fines shall go to the person laying the information and the other half to the municipality within which such tree was growing.

10. The council of every municipality may pass by-laws:—

(1) To regulate the planting of trees upon the public highway.

(2) To prohibit the planting upon the public highways of any species of trees which they may deem unsuited for that purpose.

(3) To provide for the removal of trees which may be planted on the public highway contrary to the provisions of any such by-law.

REMEDY FOR MILDEW.

It is stated that an Italian experimenter named Giovanni Gazzotti, has found that by drenching the vine leaves and fruit with a solution of soda, in the proportion of two kilogrammes to each hectolitre of water, the mildew was completely destroyed, and the leaves and fruit became healthy, and grew naturally. A kilogramme is a little more than two pounds, and a hectolitre is about twenty-two imperial gallons.

THE TALLEST TREES IN THE WORLD.

It is usually considered that this epithet belongs, *par excellence*, to the famous "Big Trees" in California, variously known by the names of Wellingtonia or Sequoia. These are, however, far surpassed in height, and probably also in the total amount of timber in a single tree, by the real giants of the vegetable kingdom, the noble gum trees of the genus *Eucalyptus*, which grow in the Victorian State Forest, on the slopes of the mountains dividing Gipps Land from the rest of Victoria, and also in the mountain ranges north of Cape Otway, the first land which is usually "made" by any vessel bound from England for Melbourne direct. As will presently be shown there are only four of the Californian trees known to be above 300 feet high, the tallest being 325 feet, and only about sixty have been measured that exceed 200 feet in height.

In the large tracts near the sources of the Watts River, however (a northern branch of Yarra-Yarra, at the mouth of which Melbourne is built), all the trees average from 250 to 300 feet in height, mostly straight as an arrow, and with very few branches. Many fallen trees measure 350 feet in length, and one huge specimen was discovered lately which was found, by actual measurement with a tape, to be 435 feet long from its roots to where the trunk had been broken off by the fall; and at that point it was 3 feet in diameter, so that the entire tree could not have been less than 500 feet in total height. It was 18 feet in diameter at 5 feet from the ground, and was a Eucalyptus of either of the species *E. oblique* or *E. amygdalina*. It should be noted that these gigantic trees do not, like their California prototypes, grow in small and isolated groves, towering above smaller specimens of the same or of closely allied kinds, but that, both in the Dandenong and Otway ranges, nearly every tree in the forest over a large area, is on this enormous scale.—*World of Wonders.*

THE YUCCA IN CALIFORNIA.

The Yucca or Spanish Bayonet, from which we have named our camp, is one of the most imposing flowers in the world. The plant itself is a bunch of bayonet-like leaves, stiff and sharp enough to inflict a painful wound, and 12 inches or 18 inches in length, growing close to the ground. Out of this cluster the single flower-stalk rises to a height of about 15 feet. The flowers are cream-white, about 2½ inches in diameter, pendulous on delicate stems in horizontal racemes which spring from the stalk in lengths so regularly graduated that the mass of blossoms present the appearance of a gigantic white oval, about 6 feet long and 2 feet wide in the middle, tapering gracefully above and below. The specimen erected in our Plaza when we named the camp has seventy racemes, each containing from ten to thirty flowers. This gives about 1400 or 1500 blossoms for each stalk, and they shed a heavy lily-like perfume, whose strength is commensurate with their grand proportions. These stately plants seem to be climbing precipitous mountains, and standing like sentries on the crest of the ridge. I am afraid it will seem prosaic if I add that the Yucca is good to eat. Mr. Albert Durer brought in the top of a young one which had not yet burst into flower. It looked like a stalk of Asparagus, four feet long and as thick as a man's wrist. The tender top, cut in pieces and stewed with cream sauce, made a pleasant addition to our dinner. It tasted something like Salsafy and something like Artichoke, and a good deal like Yucca. I believe that it is a

favorite dish with Spanish Californians. —*New York Tribune.*

BOOK NOTICES.

How to Become a Good Mechanic is intended to be a practical guide to self-taught men, telling them what to study, what books to use, &c. ; in short, how the young mechanic may rise from the bench to something higher. Published by the New York Industrial Publishing Company. Price 15 cents.

The American Garden for December is beautifully printed on fine paper and illustrated with a great variety of engravings, while the information imparted under the head of Vegetable Garden, Fruit Garden and Flower Garden, &c., is of great value to every one who has any taste for horticulture. It is published monthly by B. K. Bliss & Sons, 34 Barclay street, New York, at $1 a year.

Wilford's Microcosm, a religio-scientific monthly, devoted to the discoveries, theories, and investigations of modern science in their bearing upon the religious thought of the age, published by Hall & Co., 23 Park Row, New York, at $1 per year. The December number is full of very interesting papers, especially the one entitled "Sin not an unlooked-for intruder, but embraced in the Creator's eternal purpose."

Stray Leaves of Music.—Oliver Ditton & Co., Boston, Mass., have sent as specimens of their month's work in issuing Songs and pieces for everybody an attractive collection, comprising :— Menetto. (Stray Leaves), (35 cents) pretty and quaint musical sketch by Brandeis. Beggar-Student March, (30 cents) arr. from Millöcker by Le Baron. Princess of the Canaries Gallop (30 cents) bright arrangement by Le Baron. No More, (40 cents,) song by Nicola Ferri. Tarry with me, O my Saviour, (35 cents,) beautiful Solo, Duet and Octet, by M. Loughlin. When Old Age Comes. (40 cents) Italian and English words. By Tosti. The Letters we Carved on the Tree. (40 cents) A most attractive ballad, by F. B. Haynes. Some Grief Your Looks Betray. (35 cents) Lakmé. No Surrender. (30 cts.) Stirring Song by Barri.

DOUBLE WHITE BRAMBLE.

(*Rubus fruticosus pomponius.*)

Of the multitude of varieties that exist of the common Blackberry there are three only that can be recommended as ornamental garden plants, and these, owing to their spreading and picturesque growth, are particularly suitable for planting as isolated specimens on lawns. They consist of the double pink (roseus fl.-pl.) a kind which produces a profusion of small rosette-like flowers of a beautiful pink colour; the Parsley-leaved, or laciniatus, a well-known variety, with elegantly-cut foliage; and the double white. This variety is particularly beautiful, its flowers reminding one more of miniature clusters of Aimée Vibert Rose than of those of a Bramble. Its blossoms, being semi-double and pure white, contrast charmingly with the foliage, which is of a paler hue than that of other Brambles. Like others of its race, it thrives anywhere, and often in places where no other ornamental plants would grow. Trained against a wall it is a fine object, and its vigorous growth rapidly covers a large space. It is useful, too, for screens, but its proper position is on a lawn where it has free scope in which to develop itself in all directions. In such a position it soon makes a huge symmetrically shaped bush, which from early summer till late in autumn is covered with bloom. It thrives in any soil, but where it has its choice seems to prefer a light warm one. It has been long cultivated in gardens, and appears to have originally come from Italy.—*The Garden.*

THE BEAUTIFUL DAY.

"We did not mean to do wrong," she said,
With a mist in her eyes of tears unshed
Like the haze of the midsummer weather.
"We thought you would all be as happy as we?
But something, must always go wrong, you see,
We have our play-time together.

"Before the dew on the grass was dry,
We were out this morning, Reuben and I,
And truly, I think that never—
For all that you and Mamma may say—
Will there be again such a happy day
In all the days of forever.

"The sunshine was yellow as gold, and the skies
Were as sleepy and blue as the baby's eyes;
And a soft little wind was blowing,
And rocking the daisy buds to and fro;
We played that the meadows were white with snow,
Where the crowding blossoms were growing.

"The birds and the bees flew about in the sun,
And there was not a thing that was sorry—not one,
That dear morning down in the meadow
But we could not bear to think—Reuben and I—
That our beautiful day would be done, by and by,
And our sunshiny world dark with shadow.

"So into the hall we quietly stepped.
It was cool and still, and a sunbeam crept
Through the door, and the birds were singing.
We stole as softly as we could go
To the clock at the foot of the stairs, you know,
With its big, bright pendulum swinging.

"We knew that the sun dropped down out of heaven,
And brought the night when the clock struck seven—
For so I had heard Mamma saying;
And we turn'd back the hands till they pointed to ten,
And our beautiful day began over again,
And then ran away to our playing.

"I'm afraid I can't tell you the rest," she said,
With a sorrowful droop of the fair little head,
And the misty brown eyes overflowing.
"We had only been out such a few minutes more,
When, just as it always had happened before,
We found that our dear day was going.

"The shadows grew long, and the blue skies were grey,
And the bees and butterflies all flew away,
And the dew on the grass was falling.
The sun did not shine in the sky any more,
And the birds did not sing, and away by the door
We heard Mamma's voice to us calling.

"But the night will be done, I suppose, by and by;
And we have been thinking—Reuben and I—
That perhaps"—and she smiled through her sorrow,—
"Perhaps it may be, after all, better so,
For if to-day lasted forever, you know,
There would never be any to-morrow!"

St. Nicholas.

PROFITS OF SMALL FRUITS.—As a sample of the profits they make in Southern Illinois, Mr. Endicott owned up that he made, clean profit, $4,200 this year from twelve acres of strawberries and grapes. This, he said, was after the picking and crates were all deducted, the net profit; and some of the berries, Sharpless, were so poor a crop as to yield only about a dozen crates of marketable fruit per acre. His berry for money, is the Crescent, with the Capt. Jack or Wilson. The grapes, Ives, pay an annual profit of from $200 to $300 per acre, with good culture.

A NEW WAY OF BLEACHING CELERY.—Some time since in strolling through Stratford, the market garden of Bridgeport and Birmingham, Conn., I was much interested in meeting W. H. Benjamin and learning his method of bleaching celery. Instead of earthing it up as is usually done, Mr. Benjamin simply ties it up closely in old news or other papers when it is ready for bleaching, and at the end of from 12 to twenty days finds it as nicely bleached as though it had been laboriously banked up. He says one-third more celery can be got from an acre, because when it is not banked it does not need to be planted so far apart; that a great amount of labour is saved and that by this process the celery never rusts.

COAL-ASHES FOR HEAVY SOILS.—For the purpose of making stiff soil friable, sifted coal-ashes, where they can be readily had are better than sand. They are more easily disseminated through the mass, and contain a small proportion of mineral salts likewise, though their merit is principally mechanical. I had a patch of clay over traprock that, after a rain, took on the consistence of putty. I could do nothing with it. Vegetable manure it scorned, and the spade cut in it as though it was skim milk cheese. The place was made the receptacle of the winter's ashes. Two years after, it was dug up through a mistaken order in the fall. Next spring I manured it, and had it dug over. Then I planted it, of all things in the world, with melons. They were a striking success. More than that, the friability of the soil remained permanent.—*American Garden.*

Printed at the Steam Press Establishment of Copp, Clark & Co., Colborne Street, Toronto.

AY'S PROLIFIC CURRANT

The Most Prolific Currant known.

Very Desirable.

THE

Canadian Horticulturist.

VOL. VII.] MARCH, 1884. [No. 3.

FAY'S PROLIFIC CURRANT.

The oft-repeated expression that "no improvement has been made in the currant for a long time," is no longer true. The variety, Fay's Prolific, a coloured illustration of which adorns this number, is a most decided step in advance. We have had sufficient size in the Cherry and Versaillaise, but they were very acid, short bunched, and poor croppers. It is true that their large size enabled growers to obtain the highest market rates from those who purchased for table use, but the fruit canneries would not pay these prices, size being a matter of secondary consideration. Thus it came to pass that since the demand for canning purposes sprang up, those growers who relied on the more productive, though less showy, Victoria currant, probably realized more profit from an acre of these than did those who grew the larger and more showy sorts.

It is said that the late Lincoln Fay, of Portland, Chautauque County, in the State of New York, for many years endeavoured to raise a currant that would combine the size of the Cherry with the productiveness of the Victoria. To this end he fertilized one with the pollen of the other, and raised some thousands of seedlings, from out of which he selected this as the one that most nearly realized his desires. It is now sixteen years since this seedling was obtained. For some eight or nine years Mr. Fay tested this variety by the side of all the sorts in cultivation, until becoming convinced of its superiority in several particulars over any of these, he planted it extensively for his own marketing. About three years ago the writer visited Mr. Fay, and although it was then too late in the season to see the fruit upon the plants, there was yet abundant evidence that his then very extensive plantation of this currant had yielded a bountiful crop.

The Fay's Prolific has fruited for two years in our grounds without receiving any more care than has been given to all the other varieties, and we are constrained to say that it has fully sustained all the claims that Mr. Fay expressed to us regarding its size, productiveness and quality. We have found the size of the berries to be about equal to that of the Cherry Currant, while the bunch is very much longer, and being naked for about half or three quarters of an inch from the point of connec-

tion with the plant. the fruit can be conveniently gathered without injury. The yield is much more than double that of the Cherry; writing now from memory, would say it is fully equal to the yield of the Victoria; and the flavor is very considerably less acid than in the Cherry.

Dr. Hoskins, who resides in Northern Vermont, says that he finds the Fay in every way satisfactory and fully equal to the representations regarding it. There is a real pleasure in being able to say, what can rarely be said in regard to a new fruit, that it fulfils all that was promised for it.

Wm. Saunders, President of our Association, at the last summer meeting, said, I grow most other varieties, but I have been really surprised with Fay's. It has received the same cultivation as the other varieties, although I gave a dollar and a half for it, and I must say from what I have seen of it, that I think it is the most promising red currant we have ever had brought before us.

Professor Waterbury, of the State Normal School, at Geneseo, New York, says of it, "it makes a vigorous and healthy growth, is prolific indeed, bearing many long racemes well loaded with the largest and fairest red currants I ever saw; in flavor sprightly and agreeable, less acid than the Cherry. I consider it a decided advance upon any fruit of its class."

Having such testimony in its favor by those who have given it a trial, we commend it to the attention of our readers, with the request that they will send to the *Canadian Horticulturist* the result of their trials with this new currant.

WOOD ASHES.

In the article bearing the above title, at page 37, February number, a slight typographical error has made the statement as to the quantity of potash, lime, magnesia, etc. in the ashes of beech wood, not only unintelligible but ridiculous. The sentence should have read thus, "Ash from the wood of the beech is said by chemists to contain 9.6 pounds of potash, 33 pounds of lime. 6 pounds of magnesia, 3 pounds of phosphoric acid besides sulphuric acid, to the bushel of 60 pounds." Or it may be stated thus, that the ash of beech wood contains 16·1 per cent. of potash, 3·4 per cent. of soda, 10·8 per cent. of magnesia, 56·4 per cent. of lime, 5·3 per cent. of phosphoric acid, 1·0 of sulphuric acid and 4·7 per cent. of silica.

If this error in proof reading shall have resulted in fastening upon the memory of our readers the real value of hard wood ashes, our readers can afford to pardon the oversight.

A BEAUTIFUL NATIVE PLANT.

One of the most ornamental herbaceous plants is our indigenous Butterfly-weed, or Pleurisy-root (*Asclepias tuberosa*), found everywhere growing wild along roadsides, and on rather dry, sandy slopes, especially southward. It is a perennial, upright herb, about one to two feet high, with oblong lanceolate leaves covering the stems to the summit. Its bright orange flowers are borne in large, terminal corymbs, and when in full bloom densely cover the plants, producing a most brilliant effect. The roots are tuberous, and penetrate the soil to considerable depth. Large plants are

therefore somewhat difficult to move; but small specimens may be transplanted successfully, and will thrive in almost any soil and location; yet sandy loam and a sunny position are most favorable for their growth. The plants should be taken up in the fall after flowering, or early in spring. For adding color to a group of evergreen shrubs in a lawn during late summer and early autumn, nothing can be more effective than a few clumps of these Asclepias planted along the outer border.

QUESTION DRAWER.

Mr. Editor,—Wishing *The Horticulturist* every success, and hoping to see it soon become an interesting journal in the home of every farmer in our fair Dominion, I would beg leave to offer a few suggestions. Would it not be well to give a page or two expressly for questions to be asked by anyone wishing information, and answered only by practical and experienced men on horticulture, and any question pertaining to farming. For instance, I will ask this question. What is the best mode of cultivating a vineyard?

A. Cole.

In reply to A. C., I would say that as soon as the ground is dry enough in the spring to plough, I commence by ploughing from the vines not deeper than four inches. By using one horse to plough the last two furrows next to the trellis, I can plough all the ground except six or eight inches; that space will have to be worked with the hoe; then after a week harrow the ground well. After two or three weeks more I plough again to the vines, using a plough that will throw the furrow well to the centre, then keep the ground well cultivated until the middle of August, no more to be done until after the fruit is gathered. As soon as the fruit is all taken off, give it another cultivating to prevent the weeds from going to seed. Just before winter sets in, open the furrows between trellises to keep the water from lying on the ground. By no means plough the ground in the fall; it needs to be left as solid as possible for winter.

Farmer and Fruit Grower.

What is the best mode of trellising a vineyard, eleven feet between canes, ten feet between vines.

A. Cole.

Editor's reply to Mr. Cole's suggestion, that the Question Drawer is always open, and any questions received will be published, and any replies sent in will appear in the next number. The Editor will be most happy to receive questions at any time, and hopes that readers will be free to avail themselves of this method of eliciting information on any desired subject.

Will some of our grape-growing readers please reply to Mr. Cole's inquiry concerning the best mode of trellising grape vines?

What profit may be expected in a favorable season from—1st, ten acres of peaches, and 2nd, ten acres of apples respectively? 3rd. Can apples be grown profitably in the neighbourhood of Lindsay; and 4th, if so, what kinds?

Subscriber.

This question was submitted to the meeting of the Fruit Growers' Association recently held in Woodstock, and the following replies elicited:

1st and 2nd.—One hundred dollars per acre.

3rd.—I think so.

4th.—Duchess of Oldenburg, Ben Davis, Golden Russet, Alexander, Wealthy, Grand Sultan, Talman Sweet.

STRAWBERRY CULTURE.

A correspondent asks how two crops of strawberries can be raised from a plantation in three years.

Ans.—Strawberry plants should be set in the Spring, say in the month of April. During this season they will be cultivated and kept clean. Next year the plants will yield a crop of strawberries, and if well fertilized and kept free from weeds, the same plantation will yield another crop the following year. As soon as this crop is harvested plough under. It is very seldom that the same plantation will yield a profitable crop for more than two years. Another plantation should have been made in the meanwhile, which will be bearing fruit when the old one fails.

May I ask *The Horticulturist*, to state, if a young grape vine planted against, and trained up a fruit tree which has a trunk four inches in diameter at the base, will injure the tree?

R.

Toronto, January 28.

Ans.—In process of time the foliage of the grape vine, unless carefully pruned every year, will so cover and keep from the light the leaves of the tree, as to impair its health and destroy its value as a fruit tree. By proper pruning the grape vine may be kept within such bounds as not to injure the tree to any serious extent, and yet in so much as it keeps air and light from the tree, by so much is it injurious.

REMEDY FOR PEAR-BLIGHT.

A correspondent of the *Fruit Recorder* writing from Kelley's Island, says: "My remedy published in *Fruit Recorder* some years since, still continues a specific with me, and with all who use it as far as I know. I have not had a diseased tree since I have used it. Those here who neglect to use it have blight. . . . Certain it is, if the trees are washed with strong copperas water from *about* the 20th of May to 1st or later in June, no pear tree will have blight. Costs as near nothing as may be." A. K.

We presume he means sulphate of iron.

OUR FAILURES.

Mr. Editor,—A little you've surprised me by the notice that a new feature in the management of your nice little periodical is, that each director is expected at least annually to add to its contents.

It appears to me, Sir, that you have a good deal of *brass* in your constitution. I take it, that as the paid Editor of our journal, it is your duty to sit *and write, and write sir, till you take root*, and leave us *puir bodies alane*; but rather than have words about it, we'll make a virtue out of a seeming necessity, as best we can.

Not long ago, in mid-ocean, on a beautiful Sabbath morning, a goodly crowd of emigrants had assembled for divine service on the deck of the good steamship *Montreal* bound for Quebec. Some there were full of glee and youthful hope; some too sad and sorrowful; and when, as with one voice, they joined in our grand old paraphrase, "O God of Bethel," they wept when they remembered Zion. One interesting girl I noticed wiping the tear from her old father's face, who was no doubt thinking of loved ones left behind. I didn't hear her words, but I could fancy them, and you also, Mr. Editor, will have but to fancy them too, till

you get that Scotch dictionary we have promised you :

"Dinna greet faither."

But a tear dropped frae her ain bonnie blue ee, and the two wept together.

Kind words of sympathy to the sorrowing, and good advice to all, was given by the Rev. Dr. Potts, of Montreal. He counseled them to carry with them to their new homes all they had been taught that was good in the land they loved so well. The land you're going to is a goodly land, he said ; but as you keep us closely to our text, sir, here we leave the little band of sea-girt worshippers, and endorse the words : It's a goodly land, this Canada of ours. In few parts of our fair world does the industrious hand find so liberal a return of good things. If we don't have this it's because we fail in the means to obtain it.

A retrospect of the past brings to the minds of us all many failures ; but as some one wisely remarked at our late meeting, have not our greatest successes often resulted from the study of our failures ? Success sometimes kills. After counting the profits of that extraordinary crop of fruit or vegetables, has not the first idea been to go into it two-fold next year, but how often the result has been different we all know. The season, the soil, the seed, causes many and unknown had to do with it, but the effect was a poor crop.

Have you failed in some of the novelties of the day to sustain the reputation heaped on them ? If you have not, it is because you have been more cautious than some of your neighbors. That strawberry lauded as beautiful and productive, doomed to be the coming one of the season, when you went to gather the fruit, where were the bunches that looked so well on paper ? Didn't echo answer, Where ? Can't you tell a similar tale of raspberries, blackberries, melons, &c. Such disappointments, experienced by most of us, should be no cause for discouragement. Just as sure as the seed is the birthplace of the plant, so sure is the cause of the effect. The exercise of thought and observation will detect many causes of failure. Sift them out. Read over the back volumes of the *Horticulturist*, consult your neighbors interested in these matters, and your chances of success will be doubled. By all means lend a hand in testing new varieties, but don't risk your crop on them. "Prove all things, hold fast that which is good."

Have you failed to beautify your home and screen you from summer's scorching sun and winter's stormy blast by planting evergreens ? If so, don't delay another year. A neighbour of mine remarked to me lately, "I would willingly mortgage my farm for $500 could I surround my house with a living shelter like yours ;" and yet when planting these very trees I was often asked where the profit was. About that same time I complimented the owner of a well got up house on his taste in planting an evergreen hedge around it. He replied, but there's no money in it ! Oh ! that almighty dollar. That hedge is to-day an object of more admiration than the costly mansion. Let me quote a few lines from the writings of one who realized the beautiful in nature. I'll add nothing more from my rusty pen to mar the beauty of his words :

"Without disparaging classic taste, I venture to say that there is not a poor worm which we tread upon, nor a sere leaf, that, like a ruined but reckless man, dances merrily in its fallen state to the autumn winds, but has superior claims on our study and admiration. The child who plucks a lily or rose to pieces, or crushes the fragile form of a fluttering insect, de-

stroys a work which the highest art could not invent, or man's best skilled hand construct. There was not a leaf quivered on the trees which stood under the domes of the Crystal Palace but eclipsed the brightest glories of loom or chisel ; it had no rival among the triumphs of invention, which a world went there to see. Yes ; in His humblest works God infinitely surpasses the highest efforts of created skill."

JOHN CROIL.

Aultsville, Feb., 1884.

WINTER MEETING OF THE FRUIT GROWERS' ASSOCIATION.

MR. EDITOR, —I beg to congratulate the Ontario Fruit Growers' Association on the very successful meeting held here last week. The discussions that took place on the various subjects mentioned in the programme were listened to with deep interest by a large number of our townspeople and farmers, and fruit-growers of the county of Oxford. The original papers contributed and read by their authors were excellent, and I am sure must make the report of 1884, to be published next year, very desirable and valuable reading matter.

The large amount of practical and useful information based on the experience of the various speakers that was elicited during the two days that the meeting lasted, must be of very great benefit indeed to the country generally, and especially to this neighborhood. The interest and value of the meeting was very much increased by the presence of the American delegates from Western New York and Michigan. Those gentlemen, I believe, are large and successful fruit-growers, and were always ready, when appealed to by our excellent President, to give the meeting the benefit of their experience and observation, and that too in so pleasant and agreeable a manner as to make the information still more valuable. I can assure you, sir, that the people of Woodstock and vicinity have a more lively appreciation of the usefulness of the Fruit Growers' Association than they ever had before. Several farmers have since informed me that it was the best thing they ever attended in our town, and are anxious to know when we may expect another such meeting.

Yours truly,

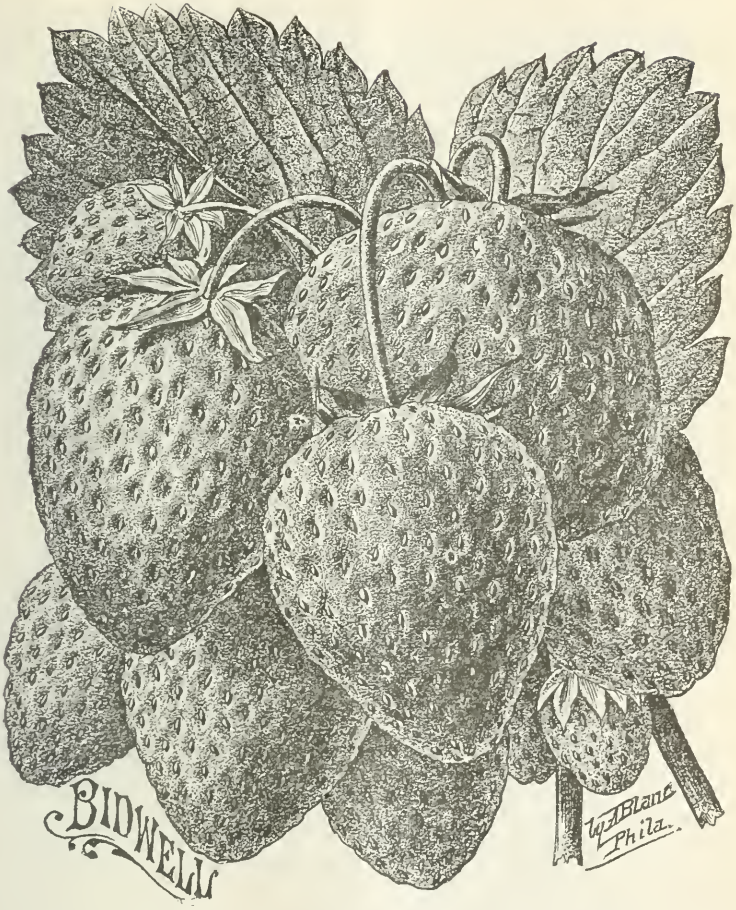
T. H. PARKER.

Woodstock, 9th Feb., 1884.

FRUIT GROWING AT CAPE ELIZABETH.

DEAR SIR,—In answer to your favor of the 8th inst., I must say I am not a successful grower of the larger fruits, still I shall be pleased to give you an account of my failures and successes. When I took up land my first wish was to have an orchard growing whilst the other clearing was going on, so when the first two acres were cleared and fenced I sent up from Toronto one hundred apple trees, about five of each of the best sorts I could then read of, five plums, five pears, five cherries, five crabs, one hundred currants, two hundred strawberries, one hundred raspberries Of the one hundred apple trees five only, all the *Duchess of Oldenburg*, have borne, and for several years they have produced fine fruit. Most of the others were killed out the first season, but about twenty froze to or near the ground and have grown up and been frozen down annually. Several I re-grafted, of which three will succeed.

The plums were all frozen down below the gratts, but have since grown up to trees and produce good preserving fruit, although only wild plums of various qualities. The pears and cherries were all too delicate. All the crab apples did well, and I have had bushels from them the past few seasons. The best sorts are the *Montreal Beauty* and



Transcendants. I think the *Siberian* too small to be worth cultivating. The currants yielded small crops only for several years, but last year did well, and so did the gooseberries. I think if the English gooseberry were protected for a season or two until they got well rooted and were kept clear of the caterpillar, they would succeed. This is the country for strawberries. I have seen finer here than I ever saw before. My present favorites are the *Sharpless*, perfectly hardy, I give it no protection; and the *Bidwell*. In 1879 I planted the first six plants of the *Sharpless*; in 1881 I sent a small basket of them to the Toronto Horticultural Exhibition and received first prizes from, I am told, about forty competitors. The raspberries were planted in the fence panels and neglected, but I transplanted some to beds and find they pay well for cultivation. The sorts are *Franconia* and *Brinkle's Orange*, *Shaffer's Colossal*, &c.

I think my ignorance of the nature

of the soil had as much to do with the failure of the apple trees as the severity of our winters. My garden, as well as most of the farming land of Muskoka, is good rich soil, surrounded by hills of rock and rolling stones. From most of these hills springs of water are constantly running to the lower lands, and until these springs are cut off and turned into a proper course by drains, the land is kept too wet and cold in places for healthy vegetation. Since draining I have planted *Alexander* and *Tetofsky* apples, which passed through the first winter all living. I planted a second set of pears, plums and cherries, all of which, notwithstanding my draining, are going through the annual process of freezing down and growing up.

The *Glass Plum*, received from the Fruit Growers' Association, has grown a good size, but so far has borne only two plums. A graft from it on a native wild plum is growing stronger than its parents. Of five Spanish walnut trees planted three died, and two are grown beyond risk, one as high as second story window. Canadian walnuts and butternuts were partially frozen, but I think will do when roots get stronger. My English walnuts are growing, but I protected them the first winter. I have a hedge of English filberts and Kentish cob nuts grown from nuts bought in Toronto. The Berberry, Buckthorn and Scotch Sloe are quite hardy. Roses do better here than in Toronto. Grapes will be a success with winter protection. They did not ripen this year, as we had more cloudy than fine days. *Rogers* showed fine bunches and strong wood. The last apples planted are the *Snow*, *Mann*, *St. Lawrence*, *Russet* and *Colvert*, but they have not yet passed a winter.

Yours truly,

F. W. Coate.

Muskoka.

NEW VARIETIES OF GRAPES IN THE EASTERN TOWNSHIPS, PROVINCE OF QUEBEC, SEASON 1883.

Just as the interest in grape culture has been given an impetus through the introduction of many valuable varieties for high latitudes, we have been overtaken by two successive cold, wet, and discouraging seasons, which tend to give us a higher appreciation of the earlier and hardy varieties. On many sections the crop was almost an entire failure. The immunity from frost along the Champlain Valley, Richelieu River, Island and vicinity of Montreal, and some localities on the Ottawa matured most varieties, the best, however, lacking the flavor of favorable seasons and the properties necessary for successful wine making.

BLACK VARIETIES.

Early Victor has surprised us by its merits, its foliage is remarkable for vigor and resistance of fall frosts, its bearing capacity equally surprising; under proper treatment it may be fairly classed as an extra early variety of better quality than any of the early Labruscas. The Worden, though not very new, is yearly winning its way in popular favor and should entirely displace the Concord in this Province, as it is certain to ripen, of larger size and superior quality, and nearly as vigorous.

Moore's Early, though early and showy, is so far a shy bearer. Aminia Roger No. 39, has improved in size and productiveness, is a large, rather dark purple, bearing very compact clusters, and is probably the earliest of his hybrids of its color.

Linden, from its large leathery leaf, gave promise of good properties, but was disappointing in fruit, colored the first, but was not eatable for weeks after.

Belvidere has fruited for three years, a profuse bearer, early, large in

EARLY VICTOR.

berry and bunch, drops its berry, and is poor in quality.

Rockland Favorite, a new Concord seedling, ripens early, is spoken well of in central New York, bore its first fruit here.

WHITE GRAPES.

Lady has done exceedingly well the past season, and well repays a little patience; has improved in size, quality and productiveness for two years past, and is undoubtedly the most valuable

early white grape for all parts of this Province. Its introducer, the Hon. G. W. Campbell, of Ohio, has kept this grape before the public, and all who give it a patient trial will not regret it.

Belinda fruited early, and is promising, comes in soon after Lady, but not as good in quality.

Antionette, a few days later, carried fine clusters for its first season's bearing; these two Miner seedlings are remarkable for their hardy foliage, and will probably maintain a place in our fruit list.

Faith, the venerable Jacob Rommel's new white grape, in keeping with its extraordinary vigor, bore an astonishing supply of fruit, small in berry; its merits as to earliness can be better determined as the vine gets age.

Purity, parentage Delaware, a production of Mr. Campbells, gives us a delicate little grape which promises to equal in flavor its parent, and entirely eclipse Croton from same origin.

Naomi, of Mr. Ricketts, though rather late at present, is the most showy white table grape we have, of delicate bloom, and evidently promising thus far

Prentiss would be very valuable but for its uncertainty in ripening, can only be recommended for highly favored localities.

RED GRAPES.

Vergennes has ripened rather earlier this season, is very hardy and productive, of excellent keeping qualities, preserving its full flavor till Christmas; will undoubtedly be a standard of value in this latitude.

Brighton improves year by year, many bunches attaining a great size, and finely shouldered; to obtain large bunches requires checking in growth; is not a heavy cropper or good keeper, ripens here with Delaware.

Dempsey's No 5, a production of your esteemed President, Ontario Fruit Growers' Association, has fruited for two years, proves to be the earliest of its colour, resembling Massasoit in some respects. but earlier.

Owasso proves very productive and satisfactory in quality, with fine large clusters of medium berry with a pleasing bloom; ripens with Delaware.

NEW GRAPES.

The following new varieties not yet disseminated by their originators are worthy of reference. Burr's Early, by the venerable originator of Early Victor, who writes of it, "larger than Victor, very prolific but not quite as hardy; the fruit has a more refined, delicate and richer flavor; if it does as well with you as Victor, you have a real treasure."

Norwood, by the Rev. J. W. Talbot, of Mass., took a first-class certificate before the Mass. Hort. Society, "ripens a trifle earlier than Concord, and has kept with me in good condition till April;" its originator writes: Rommel's Delaware Seedlings, "Early Black" and "Rommel's July" promise to give us extra early grapes, said to possess other merits.

Ulster Prolific, of A. J. Caywood & Son, who kindly supplied our recent exhibitions with its fruit, of excellent quality.

Jessica is exceedingly vigorous, and I have heard it highly spoken of by a member of our Montreal Hort. Society, who has fruited it.

Rickett's Hybrids, Empire State, Golden Gem, Peabody, Nos. 72, 346 and 543 have done exceedingly well.

Great acquisitions, in recent years, have undoubtedly been added to our grape list, and the cry is "still they come;" the present year offers new candidates for favor, which, if half their claims, put forth by their originators prove to be based on fact, we have a glowing future before us.

W. M. P.

Clarenceville, Que., Jan. 16, 1884.

BAXTER'S RED APPLE.

To the Editor of the Canadian Horticulturist.

Dear Sir.—This apple is said to be a native of Brockville: this I believe is not correct. A German by the name of La Rue immigrated to this country from the State of New Jersey, U. S., about one hundred years ago. He settled on a farm near Brockville, and brought a young tree of this variety with him and planted it on his farm. I am told the tree is still growing on this farm bearing large crops of apples. A good many years ago La Rue used to carry these apples to Brockville in a basket, and retailed them out at five cents a piece. Baxter was the first man that cut scions from this tree and commenced to propagate it. It was afterwards propagated in the Lyn Nursery and called the Baxter. Mr. Daniel Nicol, proprietor of the Kingston Nurseries, Cataraqui P.O., Ont., has been propagating this tree quite extensively for some years. He calls it La Rue. Mr. Geo. Leslie, Toronto Nurseries, calls the same apple Baxter Red. I got my information about this tree from Mr. John Buck, Alexandra Bay, he is a nephew of La Rue. Mr. Buck told me that a gentleman from New Jersey was at his place a few years ago and saw the trees growing in his orchard and recognized them at once, and said that they were extensively grown in that state at the present day, and was one of the best apples they had. He gave him the name of the apple, but he, Mr. Buck, had forgotten it, consequently he could not give it to me. This tree has been quite extensively planted in the vicinity of Kingston and Brockville, and has given the best of satisfaction. It is extremely hardy, and the coldest winters that we have here never affect it in the least. It is an upright grower, very thrifty and the trunks of the trees are all as straight as a gun barrel. It commences to bear very young, fruit growing on the ends of the shoots when young, when the tree gets older fruit grows on fruit spurs and on the ends of the shoots. Tree requires little or no pruning, it only sends out sufficient limbs to form a good shaped tree, a little hard to propagate on that account. The fruit is very large, red, covered all over with white dots, generally keeps good until spring. You will see by what I have written that this tree is known in Canada by three names and not one of them the right name of the apple. I have given you a description of the tree and the apple, it is also described on page 92 in the report of the F. G. A., 1881. Mention is made of the same apple in the report for 1882, page 83. My object in writing this article is to find out if possible the right name of this apple, probably you or some of the readers of the *Horticulturist*, by the description given of it, can give its right name. It seems to me ridiculous that such a fine apple and tree so adapted to our climate should be known by so many names and untruthfulness about its origin and its names. I have 40 trees of this variety, 28 were planted in 1876, raised in the Lyn Nursery; there was a lot of trees sold here that year from that nursery as bankrupt stock, and in 1878 I planted 12 more trees I got from Mr. Nicol; not one of the trees has died from any cause, they are fine trees, some of them over twelve feet high; the trees were three years old when planted. I have had some fruit from these trees every year, commencing the same year they were planted.

Yours truly,

A. Bridge, P.M.

West Brook P. O.

HOW TO PREVENT MICE FROM GIRDLING TREES.

DEAR SIR,—I read somewhere that the effectual way to prevent mice girdling apple trees was to trample the snow round about them. I did so three different times, immediately after heavy falls of snow, and in spite of it have had about a dozen trees more or less injured by the mice. However, none are entirely girdled. In one or two places the mice had operated on the top of the trampled snow, which was covered with chips of the bark, and here and there the dirt of the little animals was to be seen.

I am now trying another plan which is effectual. Small tubes of stove-pipe iron, a bit about a foot or so long, and from six to nine inches wide, according to the size of the tree, is curled into a tubular shape; open the side wide enough to let the stem of the tree pass in, close it again till the edges meet or nearly so, and enter the lower end into the soil at the root of the tree. Then replace as much snow as you like short of the top of the tube, and the mice wont give any further trouble as far as that tree is concerned. These tubes can easily be removed in the spring and put by for use next winter.

The plan has been tried before with perfect success. The cost is from two to three cents per tree. It is far better to do this than to renew a portion of the trees every spring, when you have not only loss of money but of a year of time.

I was sorry to see that a committee of Horticulturists had decided against the English sparrow. It is the only bird that eats caterpillars, especially those of the white butterfly, which devour the common cabbage so much. However, in this country it seems to confine itself pretty much to towns and their immediate vicinity, and I don't think that the sparrow would become sufficiently numerous in the open country to do much harm. Sparrows are pretty numerous at Milton, a mile and a half from my place, but only once or twice during the summer have I seen or heard a sparrow here.

The red-headed w. od-pecker, on the other hand, is a really destructive bird, but as it only carries away one cherry at a time, the loss is not severe. The robin (*turdus migratorius*) I encourage, and in return for its very pleasant song and the quantities of insects, grubs and worms it destroys, it is welcome to all the fruit it likes to take. But I forgot worms are necessary as natural drainers of the soil.

Yours truly,

W. E. BROOKS.

FERNS.

No one possessed of the slightest degree of taste for gracefulness and beauty can help admiring the variety and grace of even the commonest of our native ferns, which are to be found in abundance in almost any piece of low or mucky woodland in our Province. They are invariably found in shady nooks where almost nothing else will grow, but where they have abundant air and some sunlight as well as moisture.

In almost all gardens we have just such spots as our native ferns would flourish in, or spots which could be adapted to them without much trouble or expense. Indeed we often find spots in gardens too shady for any of our cultivated shrubs or plants and which on this account are left bare, neglected and unsightly, which with very little trouble could be utilized as ferneries, or by throwing a rockery roughly together, filled in with mucky, mossy soil, the various varieties of ferns can be planted in the crevices so as display all to advantage, and thus possibly turn a spot of our garden that otherwise may have been unsightly into a thing of beauty. Many rockeries are built with such care as to symmetry that the beauty is actu-

ally destroyed to a great extent. There should in my opinion be a certain carelessness in building or *throwing* (I like that word for a rockery) it together. The soil used should be a mossy or turf loam inclining to peat, especially for the large varieties, and here and there in nooks between rocks some finer soil may be mixed in for the finer sorts.

The ferns should be transplanted from the woods in spring just as they show signs of growth, and it is easy in doing so to take up a considerable quantity of soil with each plant. In order to retain a surface moisture in the fernery a good mulch should be spread over the bed, and in hot dry weather a liberal sprinkling of water should be frequently applied.

In winter the ferns should be covered, and nature dictates leaves as a fittting mulch, although when not handy something else will suit.

Let us experiment then on the different kinds of ferns, and report progress in the *Horticulturist* as to the success or otherwise of our several ferneries.

ALEX. McD. ALLAN.

Goderich Feb. 7th 1884.

THE NIAGARA GRAPE.

Like others, I was astonished to observe the *Wine and Fruit Growers'* severe criticism of this new white grape, but when I discovered the reason for this onslaught to be the fact that the proprietor of that journal was disappointed in his desire to control the "Niagara" for a district where I presume he thought he could make his *pile* out of it, his criticism falls to the ground, and his journal has gone down below zero in my esteem. I have a Niagara vine which certainly fully sustains the reputation claimed for it as one of the strongest growers in the grape family. I expect to fruit it next season, when the results shall be given to the public. ALEX. McD. ALLAN.

A FEW NOTES FROM MUSKOKA.

In the spring of 1873 I received a lot of young fruit trees from England, they were a few from a few thousand I myself raised from seed and grafted with various well-known sorts. They arrived in good condition, and nearly all grew. Some of the varieties were Mank's Codlin, Keswick Codlin, Wellington or Dumelons seedling, French Crab Margil, Royal Russet, Court Pendu Plat, Rennet du Canada, Alfriston and Cellini; of pears Marias and Louise Bonne and a few quinces, and of plums, Golden Drop, Victoria, Prince Englebert, Prince of Wales, Jefferson, Pond's Seedling, R. Claude de Bavay, Belle de Septembre and Bullace. Now the result! It is dreadful to tell what effect the climate of Muskoka had on them; why it killed some right out the first winter, others it slowly murdered, but there were a few hardy fellows that defied it, and you will be anxious to know which they were. *Cellini*, he is a bold fellow and does well and bears well; a large showy heavy apple, splendid cooker, it is a fall apple. The other variety is Wellington or Dumelons Seedling, the only one left, it is not hardy enough for here. Though this one gives good crops every other year, it keeps well, and is a sharp, acid apple, good cooker. All the other varieties are dead, including the pears and plums, except one solitary Pond's Seedling that never bore a plum. So I have no plums only the wild native of this country. In 1872 I started to raise some apples from seed, English seed. I selected a few that looked promising, and four of these chance seedlings fruited and some others blossomed. The first fruited in 1882, it bore fifty-three fine, showy, middle sized apples with long slender stalks, they looked so good and attractive on the tree that I at once named it Harsants Admirable. I was keeping them to prove their keep-

ing qualities, but unfortunately they got frozen. I have since moved the tree to a better position. The next bore six apples much like the Court Pendu Plat in shape and colouring, only smaller, the next had two apples, so in time I shall have a variety, I hope some will turn out good keepers, that is what we want here.

I have procured several varieties of crabs, but there is one of the crabs that appears not to be so hardy as the rest; that is Quaker Beauty, it is a fast grower, but it has not fruited yet with me. I got it as I am informed it will keep long into May, for all the other crabs are obliged to be used as soon as ripe. Duchess of Oldenburg not fruited yet but grows well. Cannot say much as to Astracan and Alexander. I fear them rather by their appearance.

I have raised Strawberries and Raspberries, and Currants from English seed, the strawberries did not please me and the raspberries were fine but they cannot stand the winters, there are a few that now stand in a neglected fence corner that struggle through and bear a few fine berries, but I have no time to bother with things like them that take so much trouble. Of currants, I have raised and am raising from seed a fine variety of black (I have named them *Zulu*) currants. I forgot to mention something about the snow, the snow here is deep and a great protection for all that are below its level, but it has often destroyed my hopes as it gives and freezes on and off in the spring forming ice and breaking many and many a young tree and even large branches of established trees, if they are not above deep snow line, and this is why I prefer to have a clear stem high enough to be just above deep snow line.

I shall be able to give you other notes some future time.

I was conversing not long ago with a fruit cultivator and it was his opinion that it was not altogether the hard winter's frost that damaged the fruit trees here in the north so much, as that the ground here seldom freezes hard on account of the heavy snows, causing the sap to start too early and thereby get a severe check. Perhaps some more experienced will give their opinion.

Medora, Muskoka. T. A. H.

REPORT ON TREES RECEIVED FROM THE FRUIT GROWERS' ASSOCIATION.

The Grimes Golden apple tree sent out by the F. G. A. is a fine tree now, it is the picture of health; it is perfectly hardy and stands the winters well. It commenced to bear four years ago, and has borne every year since; but the entire crop every year is destroyed by the codlin moth. The last season it was well loaded with fruit, but I could not find an apple that had not a worm in it. In fact every variety that I have, except the Golden Russets, for the last two seasons has not been worth gathering on account of the black scab and the ravages of the codlin moth. I visited some other orchards in this vicinity last fall and found them nearly as bad as mine, although there are some exceptions. Mr. John Simpson, at Cataraqui, had a good crop of apples which appeared to be quite free of black scab. Unless something checks this disease, the apple crop is done for in this section of the country. The borers are troublesome. I go over my trees three times every season and get them out before they get far into the tree; the wounds made are very small and they soon heal over. I have never used any preventives, but I intend to try some remedies. A neighbour of mine uses pine tar; he applies it with a paint brush. He removes about an inch of earth from the tree and brushes the tar up on the trunk

a foot from the ground, and puts the earth back again. He says that one application on young trees with smooth bark will last for four or five years. He says that it will spread as the tree grows and will not wash off; he has been using this remedy for a number of years, and tells me that he has had no trouble with borers since he has used it. I sold a hundred trees to a man last spring that had faith in this remedy, and he put a coat of tar on them before he planted them.

The two pear trees, Clapp's Favorite and Flemish Beauty, sent out by the F. G. A. some years ago are growing fine. They are very hardy, the coldest winters here have not injured them. This winter is being a severe one, and I was looking over my pear trees to-day, February 8th, and I find these two all right, and the other varieties winter-killed. I can tell the trees that are killed by shaving off a piece of bark from the young shoots; if the wood looks fresh and green it is all right, if it is black it is winter killed. I have some pear trees at this date black as ink under the outside bark, they will never sprout a bud next spring.

Some people think the killing is done in the spring, but I am satisfied it is the hard freezing that does the mischief. Ever since I have had fruit trees I have made a practice of examining them the last of this month, and if they have not turned black under the bark they are sure to leaf out in the spring. The two pear trees above mentioned have borne no fruit yet, although they have been in full bloom every spring for three years; I am living in hopes that they will bear when they get older. I am at a loss to know the reason that fruit trees and bushes will blossom year after year and not bear fruit. I had as fine a lot of black Naples currant bushes as could be found anywhere, and they blossomed profusely every year for ten years and bore no fruit, except a few scattered berries here and there. At the end of ten years I dug them up and threw them away, leaving one bush only to see if it would ever bear. Last year that one bush bore a good crop of berries. The first year that Mr. Leslie advertised Lee's Prolific, I remitted him fifty cents for one of that variety; it acted the same as the other, in fact I could see no difference in the two varieties, and came to the conclusion that they were the same kind that I already had. I had a lot of an English variety of gooseberries that acted the same as the currants. I bore with their conduct for seven years and then dug them all up and threw them away; at the same time the Downing Gooseberry was bearing large crops of berries every year on the same ground. I would say here that the Downing is giving the best of satisfaction in this vicinity. My bush, received from the Fruit Growers' Association, some eight or ten years ago, has never missed bearing a good crop any year. I have raised quite a number of bushes from it. Some I planted, some I sold, and some I gave away. The Burnet Grape will bear no fruit for me. It is growing on the same ground with other varieties that bear every year. I have laid it on the ground every winter, and covered it with cornstalks. I have covered it with earth this winter. I have two varieties of grapes, one called the Caroline and the other the Chippawa. They are the earliest grapes that I have ever seen. They have ripened with me two seasons in succession on the 20th of August, and I have seen some whole bunches ripe on the 10th of August. Last year they did not ripen until September 2nd. They will remain on the trellis all winter, but will bear better when laid down. The snow is the only covering they ever get. They grow from eight to twelve feet every season,

on stiff, hard clay, without manure or cultivation. Of course they are only a common wine grape, not much better than the Clinton. The two varieties resemble each other very much, but there is difference enough to see that they are two distinct varieties.

Yours truly,

West Brook. A. Bridge, P. M.

STRAWBERRY CULTURE.

My experience with strawberries is that many different sorts require different treatment to obtain the best crop. For instance, the Wilson is not profitable with me now; if grown in the matted row system.

My mode of growing the bulk of Wilson, the last three years, is to get a sharp spade, go to an old slashing, the roadside will do if the sod is rich; cut sods four or five inches square, I make use of them the same as pots for pot grown plants. I plant early in August, pinch off the runners and cultivate.

As soon as the crop is off turn the sod upside down. One may plant on it late potatoes. Between the rows of these, strawberries may be again set in Autumn and treated as before.

I grow the Crescent on the matted row system, it is the cheap way as to labor. The Crescent is vigorous, healthy thus far exempt from mildew on its foliage; will flourish where the Wilson will starve, two years crop taken.

The Sharpless is the Jumbo of strawberries. The plant is subject to one serious criticism, it does not give its best yield until the second year. I grow on the row system. If set out in Spring let no runners grow for two or three weeks; if the plant is bushy let two or three runners grow from each plant. If pot grown plants are set out in August pinch off all the runners. Second year I cultivate, when they are allowed to run. Two years crop taken. One may have two strings to his bow. With me a favorite plan has been to plant late in September by taking them up with a ball of earth around the roots.

There is one little secret conducive to success, especially in a dry time, leave four or five inches of runner attached to each side of the plant, bend these down and bury with the roots; just before winters freeze up, cover each plant with a hoefull of earth; next April, late, scratch off this earth.

George Sutherland

VALUABLE SUGGESTIONS.

It gives me pleasure to testify to the increasing interest and value of the *Horticulturist*. It is of special value I think, as giving the only reliable, *original* matter suited to our peculiar climate and circumstances that I at least am able to obtain, and I would suggest the encouragement of correspondence and questions for the better development of this feature, and the giving of experience, especially when failures have followed and the reasons can be given; such experience if authentic usually conveys a lesson.

Peterborough. G. M. Roger.

THE GROSBEAK.

Dear Sir,—It will be interesting to know if the Grosbeak (*Coccothraustes ludoviciana*), has made its appearance in any part of Ontario this winter. I have only observed two very fine specimens so far, this season, feeding on the berries of the Mountain Ash; but last winter a very large flock of them settled down in our immediate neighbourhood, and did very considerable damage to the buds of our peach and cherry trees; they stripped the latter so completely that we had not a pint of cherries from three or four good-sized trees, though they were very full of buds, and the tops of our peach trees were covered with dead wood, so

thoroughly had they, with their powerful beaks, sheared off leaf and fruit buds alike. The hardiness of the bird seems truly wonderful: during the fiercest blizzard I have observed them eating the beech buds in some sheltered hollow.

Yours truly,

JAMES BISSELL.

Thedford.

APPLES FOR THE COLD NORTH.

The following letter was written by Mr. Chas. Gibb, of Abbottsford, Que., to the Deputy Minister of Agriculture for Manitoba, but the information given is equally valuable to our readers who reside in the colder parts of Ontario :—

DEAR SIR,—When passing through Minnesota in August last, I tried to gather some facts which might throw light upon the question of apple growing in Manitoba. The experience of Minnesota is the most valuable that can be had, the truest guide to experimental work in our Northwest.

Minnesota's largest experimenter in producing new varieties from seed, is Mr. Peter M Gideon, of Excelsior, about twenty-five miles west of St. Paul. It was he who originated the Wealthy.

I asked Mr. Gideon what five varieties he would select for planting in Manitoba —in fact, what are the hardiest trees he knew of. After some debate he answered :

Martha, from one-half larger to double size of Transcendant, better for cooking, season October and November.

Florence, a pink striped fruit of fair quality, better than Transcendant, season Sept. 1 to 30.

September, from seed of cherry crab, size of medium sized apple, of good quality.

October, also from seed of cherry crab, pretty, size of September, sub-acid, not astringent, and very productive.

These four varieties he considers the hardiest he knows of except the cherry crab, and considers them all ahead of the Transcendant in hardiness and quality, and hardier than the Red Siberian. I must add that these varieties have had only a limited trial, and that mainly in Mr. Gideon's own grounds.

Mr. E S. Spaulding, of Minneapolis, an old propagator, suggests for trial Florence, Martha, Duchess, Wealthy and Tetofsky. Transcendant crab he would add certainly if likely to be free from blight. Blight is a serious trouble, especially with crabs, in Minnesota. We hardly know what it is at Abbottsford. The cause is a mystery, yet several in Minnesota associated it with the intense summer heat, which is not likely to be the case in Manitoba. Of the Hybrid crabs, Mr. Spaulding finds Meeder's Winter not hardy It is a fine qualitied little crab which I would have supposed extra hardy. Early Strawberry (a very early crab of fine quality) he finds hardy on clay soil—not on black soils Orange (a thin-skinned, sub-acid crab of good quality fairly hardy but a little apt to blight. General Grant (a medium sized apple of only fair quality, but a most profuse bearer.) Mr. Spaulding considers the hardiest, though the worst for blight.

Mr. A. W. Latham, of Excelsior, would recommend Transcendant, Whitney's No. 20, and Virginia Crab. The Tetofsky he considers not hardy enough.

Whitney's No. 20 Crab is a little apple of really good quality, which I am very glad indeed to see proving so hardy at the north. Virginia Crab I find various opinions of. Mr. Peter Gideon says of it : "as hardy as Transcendant, and the same size : hardly equal in quality, but keeps later." Some say not as productive ; others say hardy, but not valuable.

Another Minneapolis opinion, I think that of Mr. Wyman Elliott, gave Transcendant, Hyslop, Tetofsky, Whitney's No. 20, Large Red and Yellow Siberian and Virginia.

Mr. Oliver Gibbs, of Lake City, Secretary of the Minnesota State Horticultural Society, suggests Transcendant, Early Strawberry, Virginia and Beeches Sweet. Also, Whitney's No 20 for trial. Beeches Sweet he finds the hardiest of the hybrids.

It is a sweet crab of good size and good quality.

Mr. J. M. Underwood, also of Lake City, says all kinds injure at times, but suggests Transcendant, Beeches Sweet, Early Strawberry, Whitney's No. 20, and Orange.

Mr. A. W. Sias, Rochester, Minn., President of the Minnesota State Horticultural Society, suggests for trial, Duchess, Tetofsky (a few), and would risk Red and Yellow Anis, and Russian Green and White Pigeon. He does not mention any early crabs, because he believes these Russians equally hardy, hardier he thinks than Quaker Beauty Crab or Whitney's No. 20.

Mr. Sias has experimented largely with the Russian apples imported by the Department of Agriculture at Washington, in 1870. His yellow Anis is a medium sized apple of pretty good quality, somewhat red in color, and though hard and crude when I saw it, does not keep with Mr. Sias later than beginning of October. This is No. 987 of the Department of Agriculture Catalogue. Red Anis, No. 985, is much like it, possibly a little more red, and much like Skeischapfel No. 413 of Mr. Underwood; scarcely the true anis rosovoi of the Volga, but a near relative. Russian Green No. 382 is also an anis, without doubt, striped with red and of the blue Anis family. White Pigeon No. 317 is a small very conic sweet apple with a very peculiar flavor.

In Wisconsin, where the climate is somewhat milder, our friends did not like to venture an opinion. Mr. A. G. Tuttle, of Baraboo, Wisconsin, has been a very large experimenter with Russian apples, and is now planting the best of them largely into orchard. Mr. Tuttle spoke of the special hardiness of the Hibernal No. 378, a large showy fall fruit of pretty good quality, and also of the Transparent family of which yellow and white Transparent, Red Duck and Charlottenthaler are members. His opinion of the special hardiness of this Transparent family is also that of Peter Gideon, at Excelsior, Minn.

Mr. Peffer, of Pewaukee, Wis., suggested for trial for the rich soil of Manitoba, the slow growers like Tetofsky, Gibb, Duchess and cherry crab, and also Transcendant. These he suggested from what he knew of them farther north. Gibb Crab, he says, is doing well so far at Crookston. It is a seedling raised by Mr. Peffer from Yellow Siberian (female) and Fall Greening (male) the best in quality I have in a collection of thirty varieties.

When at Winnipeg I stated that apple trees grown for trial there should be grown upon crab roots. In this I was wrong. The Russian Apple tree does badly when top grafted upon the crab, and especially the Transparent family. Root grafted it does better, but hardy apple roots are much to be preferred. Such is now the verdict of experimenters in Minnesota, Wisconsin and Vermont. Crab Apples, however, had better be grown when obtainable on crab roots.

A GRAND RAISIN VINEYARD ENTERPRISE.

The largest sale of land ever made in Southern California for fruit purposes has just been completed at Ontario to the San Bernardino County Raisin Company of Boston, Mass. This company, as the *Riverside Press and Horticulturist* informs us, has recently been organized with a capital stock of $1,000,000.

The lands selected are located in a solid body on the railroad east of Ontario. The water will be piped to the highest corner of each ten-acre lot, and the company will have a steady stream of one hundred inches of water continously flowing upon their lands night and day, or two hundred inches of day water. It is intended to plant not less than five hundred acres to vineyard this coming winter, and, if possible, a larger acreage.

This vineyard, when completed, will be the largest raisin vineyard on the coast, and probably the largest one in the world. The company is composed of wealthy men, and their endeavour will be to establish a brand for their raisins that will stand high in the markets. Already heavy raisin dealers in Boston and London have signified their desire

to handle their crop when the vineyard comes into bearing.

The raisin industry is as yet in its infancy on this coast, and the yield this season is estimated at 125,000 boxes. California raisins have been brought into competition in the eastern cities with the imported article, and have stood the test, both as regards quality and price, and that, too, at very satisfactory figures to the producer.—*Farm and Garden.*

VINES FOR WINDOWS.

I am often asked to recommend some vines for use in the house, and generally the person making the inquiry

Cobea Scandens.

wants something of rapid growth. If I were asked to say what vine I considered best of all, I should unhesitatingly name the English Ivy, but in many instances it grows slowly, and therefore does not meet the wants of such persons as do not like to wait for effect. One of the best rapid-growing vines I have found to be Cobea scandens variegata. This vine has very pretty foliage of a pale green, distinctly marked with white. It grows "like a weed," and will soon fill a window. It bears very pretty purplish blossoms of a bell shape, but its foliage is more ornamental than its flowers are.

It is much more robust and healthy than most variegated plants are; indeed it seems to be as strong and vigorous as the Madeira vine which is about as healthy a plant as I know of, and which never gives up to anything short of a frost. This Madeira vine is excellent for screens before a window, and can be trained on strings in any desired way. It is almost as well adapted to growing in shade as the Ivy is. It is really a summer plant, but I generally grow a root or two in a pot, and I have no difficulty in keeping it in growth through the winter, by cutting it back well in fall, and giving it fresh earth. It is like the Calla in this respect; it will rest if you want it to, or it will keep on growing the year round. It has little clusters or spikes of fringy white flowers, having a pleasant fragrance and being quite attractive, but its shining, dark-green, waxy leaves are attraction enough to make it a favorite.

Pilogyne suavis is another very satisfactory climbing plant of comparatively recent introduction. It has leaves shaped something like the Ivy, but of a lighter green. It climbs strings, wires or sticks equally well, and holds itself up tenaciously by means of its many grape-like tendrils. It is a very rapid grower, and must become a general favorite as soon as its merits are known. —C. E. Rexford, *in Farm and Garden.*

TREES WITH COLORED FOLIAGE.

By W. C. Barry, Rochester, N. Y.

Some trees have remarkably distinct and showy foliage, and are therefore peculiarly valuable for planting singly or in groups. The purple Beech, with its rich purple leaves, is unequalled among trees of its color. Schwedler's Maple, a new variety of the Norway, with purple foliage, is a charming tree, and promises to occupy a high place among purple-leaved trees. It is perfectly hardy, healthy, and vigorous. The blood-leaved Peach has beautiful crim-

son foliage, and when making its young growth is very striking. It grows rapidly, and becomes effective very quickly. It is not, however, a long-lived tree, and should only be used where immediate effects are desired, making provision for its loss, which is likely to occur in a few years. The tricolor-leaved Sycamore is one of the handsomest of ornamental trees, its leaves being mottled and marbled with yellow. The variegation is constant and effective. The purple-leaved Sycamore is also a very interesting tree. The Golden Locust has handsome gold-tinted leaves, and may be employed in groups very effectively. Memminger's Horse Chestnut is one of the newer trees which is whorthy of mention, on account of its peculiar foliage. Its leaves are, as it were, sprinkled and dotted with white, the effect of which is quite remarkable. As a single tree upon the lawn it is very attractive. The Silver-leaved Linden is a charming tree of fine habit, and with rich silvery foliage. It deserves to be better known. The variegated-leaved Bird Cherry has handsomely variegated foliage. Its branches droop, rendering it a very graceful tree. The Royal Willow, with its bright silvery leaves, is very conspicuous. In groups it is very effective. The Golden Oak, as well as the purple-leaved Oak, are both distinguished for their remarkable foliage. The hybrid Mountain Ash has very distinct greyish leaves and is a choice tree. The Aucuba-leaved Ash has handsome, variegated leaves, and is very showy. I have brought these trees with beautiful foliage together, so as to show what valuable material we possess for effective groups. If arranged judiciously and artistically, the most extraordinary result may be produced.

TREES WITH CUT OR DISSECTED FOLIAGE.

Wier's cut leaved Maple has distinct foliage, and the half-drooping habit of the tree renders it a handsome object upon the lawn. The dissected-leaved Norway Maple is much admired for its deeply cut leaves. The cut-leaved Japan Maples are exceedingly showy and beautiful, but their slow growth and difficult propagation will always render them rare and expensive. Their hardiness is still questioned, although in our grounds they came through the past winter in good condition unprotected. I do not lay much stress upon this class of trees, preferring to draw attention to thoroughly hardy, vigorous, rapid-growing, easily-propagated trees, which can be sold at moderate prices. When the hardiness of the Japan Maple is no longer in question, and its propagation has been rendered less difficult, it will be soon enough to suggest it to the public for general planting. The imperial cut-leaved Alder and cut-leaved Weeping Birch are two elegant trees which are much esteemed for lawn planting. The cut-leaved Beech is one of those extraordinary trees which claim special attention. A proper consideration of its qualities will lead us to the conclusion that it is one of the finest trees known to cultivators. Hardy, vigorous, luxuriant, of pleasing outline and possessing delicately cut foliage, it has all the valuable characteristics that could be asked for. The Oak-leaved Mountain Ash merits the attention of planters, as it has few equals among handsome trees. Its regular and rich foliage makes it an object of much interest. The cut-leaved Oak is an interesting and beautiful tree. Other note-worthy trees are the Madian-hair Tree, Broad-leaved Beech, Oak-leaved Beech, Willow-leaved Ash, Liquidambar, Scarlet Oak, Moss Locust, Laurel-leaved Willow, Rosemary-leaved Willow, Red Fern-leaved Linden, Ulmus superba, and monumentalis; and amongst desirable drooping trees may be named Young's Weeping Birch,

Japan Weeping Cherry, Dwarf Weeping Cherry, White-leaved Weeping Linden, Camperdown Weeping Elm, and Small-leaved Weeping Elm.

EXPERIMENTS WITH INDIAN CORN.

N. Y. Agricultural Experiment Station, Geneva, N. Y., Dec. 8, 1883.

On May 16th, 135 kinds of corn were planted in the garden, with the intention of promoting the cross fertilization of the varieties in order to study the effects. The seed used was some of it selected on account of its purity; other seed was from named varieties, still other seed from varieties purposely hybridized, or presumed from their appearance or location on the ear to be hybridized; and seed which possessed peculiarities in appearance. The types represented were the three kinds of pop corns, the flint pop, the pearl pop, and the rice pop; the flints in eight-rowed and twelve-rowed varieties, and soft or Tuscarora's; the sweets in two or more types of ear, the one corresponding to the flint, another to the dent corn ear; and the dents also in two or more types, the eight-rowed with broad kernel, and another, the many rowed, with deep kernel. We also had a pod or husk corn.

Through a study of the crop from these various seeds, we are enabled to make some general conclusions, which probably are sufficient to generalize from, but which certainly apply to the case in hand.

The seed of the preceding year gives uniformity of ear; that is, a dent corn seed may produce an eight-rowed flint, or an eighteen-rowed dent, but each ear will be perfect of its kind, and will be free from kernels of other type than its own. The flint corn kernel may produce several varieties of flint corn ear, or dent corn ear, but there will be no variety in the kernel upon the ear; a dent corn seed may furnish a sweet corn ear, and dent corn ears, but not mixed upon the cob. A pop-corn kernel may produce a sweet corn ear, of sweet corn type, a sweet corn ear of pop-corn type, or a pop-corn ear of the various types, without admixture of kernels upon the ears.

On the other hand, hybridization of the current year produces changes in the kernel, so that one ear of corn may bear kernels of various colors, and of various types, the tendency, however, being for the shape of the kernel to be governed by the type of the maize ear upon which it is found.

The appearance of various types upon an ear allow of some curious generalizations. Thus, the rice pop kernel form does not appear upon ears of other character, nor does the pearl pop kernel form appear upon the rice pop ear. The flint pop does not seem to appear upon either the rice or the pearl pop type so far as form is concerned, but its structure, however, influences. Sweet corn, however, appears upon the three types of pop-corn indiscriminately, but, on the other hand, the pop-corns do not appear upon the flint corn ears. While flint corn appears abundantly on sweet corn ears, on the other hand, sweet corn does not appear upon the flint corns. Dent corn kernels will appear upon the sweet corn whose type of ear is that of the dent ear, but not upon sweet corn whose type is that of the flint ear. The dent corn, again, does not appear upon the flint ear, but in some isolated instances the flint corn kernel may appear upon the dent ear.

The appearance of kernels of one variety upon ears of another variety, for each of the types, is of frequent and constant occurrence, except in the case of red ears. The red ears have a constancy of color which is truly remarkable: where sweet corn appears upon red pop and red dent ears the sweet corn partakes of the red color.

The practical value of these deductions consists in the guide they afford toward the improvement of the varieties of corn that we grow. For instance: by planting in adjoining hills, or better still, the mixed seed of two varieties of corn, one of which is distinguished for its length of ear and smallness of cob, and the other for the large size of its kernel, we should anticipate in many instances the transfer of the large kernel to the small ear and of the small kernel to the large ear. By selecting from the crop those ears which have length and the large kernel, we should anticipate, by a series of selections, the attaining of a new variety, in which the large kernel and length of cob would be persistent. The same remarks hold true with the dent corns. But in the matter of selections the true principle would seem to be to plant but one kernel of the desired type from an ear of the desired type, and to keep the plant from this kernel free from the influence of plants of another type, and securing the crop through self-fertilization. After the first year of this procedure, by the selection of two or more kernels of the same type from different plants, cross fertilization should be used, the crop being gradually purified by selection.

While the maize plant as a rule is not self fertilized, that is, as a general thing the pollen from one plant fertilizes the silk of another, yet in very many cases the pollen and the silk upon the same plant is synchronous, and self fertilization becomes possible, and undoubtedly is of frequent occurrence. The pollen ripens from below upward, and thus the fall of the pollen, through the successive ripening of the blooms, may last for three or four days, and there is a great variation in period of blooming as between individual plants. The silk maintains its receptivity for pollen for some little time, but for how long a period we do not yet know from direct observation. It seems, however, true, that closely following pollenation, the silk loses its transparent structure and begins to shrivel, while before pollenation is effected the silk retains its succulency for several days.—E. Lewis Sturtevant, *Director*.

PROGRESS OF SORGHUM SUGUAR MANUFACTURE.

The Champaign Sugar Works, Champaign, Ill., were the first large sorghum sugar works ever started in the United States. They ground the cane this season raised on about 1,000 acres of land, and the result is a perfect success in the way of making a first class quality of sugar that polarizes 97 degrees, and much sweeter than sugar made from cane or beet roots. For years experiments have been made to find out some way to change sorghum syrup into sugar. The attempt was unsucessful up to last year, when the State of Illinois offered a bounty to any one who would succeed in granulating the syrup into sugar. Experiments made in the State University of Illinois, in Champaign, by Professors Weber and Scovell, succeeded in accomplishing the result. A ready sale is found for all the sugar and syrup made, and the success here will cause a large number of sugar works to be erected all over the West, for sorghum cane will grow where corn can be raised, and where farmers can make $15 an acre in raising corn they can realize $30 an acre in raising sorghum cane to sell to these factories.

The result of this discovery is likely to make as great a change in this country as the making of beet sugar has in Europe, where to-day two-thirds of all the sugar in the world is made. Out of a total production of three million tons, France, Belgium, and Germany produce two million tons. The sugar

cane trash called "bagasse" is carried on conductors directly from the grinding mill and dropped into the furnaces in its green, wet state. The boilers are set with the Jarvis patent furnace, and hot air is discharged directly over the fires, igniting the gases generated by the burning fuel. The intense heat made by joining the gases with hot air is said to cause the green crushed cane or bagasse to burn very well, on something the same principle as tanners burn their wet bark from the leaches.—*Scientific American.*

CULTIVATION OF THE PEACH.

The following suggestions are taken from the peach circular of J. T. Lovett, Little Silver, New Jersey :

"The peach requires a warm, dry soil that is moderately rich in fertility; but as it is a gross feeder and draws heavily upon the soil, especially of potash, nutriment should be supplied in the form of bonedust and potash. Wood ashes are excellent, as are also some of the commercial fertilizers—notably, pure ground bone. Potash should be supplied in abundance by all means, for not only is it useful in supplying the requirements of the tree but in repelling 'yellows,' the great enemy of the peach. Muriate of potash is the best form to use, applying broadcast always.

"In preparing for planting the land should be ploughed thoroughly and as deep as possible without bringing to the surface the sub-soil, following in the furrow with a Goodall or other good subsoil plough. The trees may be planted 15 to 20 feet apart each way, according to the character of the soil—the more sandy the soil the more closely they may be planted—the usual distance being 16 or 18 feet each way. The best way to mark out the ground for planting is to furrow it with a one-horse plough both ways at the desired distance. In planting be careful to cut off all bruised or broken roots smoothly and trim back all side branches to within a few inches of the main stem—small ones to a whip—and cut back the main stem at least one-third its length. Many, particularly at the South, prefer to have the trees head low, and to cause them to do this cut off the entire tree eighteen inches to two feet above the collar when planting.

"The first two years after planting, beets, mangles, potatoes or other hoed crops may be planted among the trees, after which time they should be given the full use of the soil ; and whether the space between the trees be devoted to hoed crops while they are young or not, the soil then and in after years should be kept always as mellow and as free of weeds throughout the season as a field of corn ; being careful never to disturb or injure the roots while ploughing or cultivating. A peach orchard should never be planted to grass or grain crops, as such are exceedingly detrimental to the trees.

"Although the peach is more generally neglected in pruning than any other orchard fruit, yet there is none that more liberally repays for the trouble and expense, both in the superior yield of the fruit and maintaining vigor and fruitfulness. The peach should be annually headed-in to produce a sturdy tree with a round, compact head, instead of being allowed to grow into one with an open, spreading, unsymmetrical top as usually seen. In pruning always use sharp tools.

Professor Budd, of the Agricultural College, of Iowa, said the apple orchards of Iowa were not partially killed, but wholly killed, by last winter's cold. They were completely cleaned out, the Ben Davis as well as the rest. He, himself, lost 600 Ben Davis trees, which had borne several crops.

BOOK NOTICES.

CATALOGUE OF OAKLAND STUD of Percheron horses imported and bred by M. W. Dunham, Wayne, DuPage Co., Illinois.

CATALOGUE, annual, descriptive of field and garden seeds for 1884, for sale by Wm. Rennie, Toronto, grower and importer of vegetable, flower and agricultural seeds, seed potatoes and bulbs.

J. T. LOVETT, of Monmouth Nurseries, Little Silver, N. J., sends us one of the prettiest fruit catalogues that come to our table. The new and rare fruits are well illustrated and described. Sent free. See advertisement.

REPORT of the State Horticultural Association of Pennsylvania, containing the discussions and proceedings for 1883, handsomely illustrated, has been received with the compliments of Secretary Engle, to whom our thanks are due.

RURAL REGISTER and almanac by D. Landreth & Sons, Philadelphia, is a very useful book of 100 pages, sent free to purchasers of seeds. It contains a fine calendar of operations for every month, with hints as to selection of seed, sowing, marketing, etc.

MANUAL of Everything for the Garden, by Peter Henderson & Co., New York city. This is a large and very valuable manual and catalogue combined, the most complete of any published. Its comprehensiveness is wonderful and its illustrations are almost innumerable.

THE CANADIAN FARMER has recently passed into the hands of John Ferguson, Esq., M. P., and no pains, we are sure, will be spared to make it acceptable to the reading farmers of Ontario. It is a sixteen-page quarto, published weekly, at the Welland Printing House, Welland, Ont. Subscription $1 a year.

THE GARDENER'S MONTHLY, edited by Thomas Meehan, and published by Charles H. Marot, 814 Chestnut St., Philadelphia, is one of the most valuable horticultural publications on this continent. $2 per annum. The number for February is full of matter interesting to every cultivator of fruits or flowers.

LANDRETH'S COMPANION for the Garden and Farm, price 10 cents; published by D. Landreth and Sons, Philadelphia. This is one of the finest works of art ever issued for the benefit of the gardener. It is replete with costly illustrations and contains a valuable kitchen-garden calendar for each month's work during the year, adapted to both Northern and Southern climates.

VICK'S FLORAL GUIDE for 1884 is an elegant book of 150 pages, three colored plates of flowers and vegetables, and more than 1,000 illustrations of the choicest flowers, plants and vegetables, and directions for growing. Send on your name and post office address, with 10 cents, to James Vick, Rochester, N. Y., and receive in return a copy of the Guide, postage paid. This is not a quarter of its cost. If you afterward order seeds, deduct the 10 cents.

THE IMPERIAL DICTIONARY of the English language is being brought out in a new edition by the Century Company, New York, who state that this important English work is offered without change in any respect. This edition has been carefully revised and greatly augmented by the English editors, so that it is now probably the most comprehensive dictionary of the English language. It is a complete encyclopedic Lexicon, literary, scientific and technological, illustrated with over 3,000 engravings. In four octavo volumes. Price, $20 in cloth; $25 in half Russia. The dictionary was compiled by John Ogilvie, LL.D., and the revision is edited by Charles Annandale, M.A.

Printed at the Steam Press Establishment of Copp, Clark & Co., Colborne Street, Toronto.

Daniel Boone.

THE

Canadian Horticulturist.

VOL. VII.] APRIL, 1884. [No. 4.

STRAWBERRY, DANIEL BOONE.

Our colored illustration this month is intended to give to our readers a likeness of this new berry, which seems to have made a good many friends. It has not yet been fruited on the grounds of your editor, hence he is able to give you only the opinions of others with regard to its merits. It is described as being a large, elongated, conical berry, with a slight neck; having a clear red color; firm in texture, and of good quality. The plant is said to be a strong, vigorous grower, and a prolific cropper.

Mr. T. T. Lyon, a prominent pomologist of the State of Michigan, judging from one season's experience, says that the plants give indications of great productiveness, while the berries are of more than medium size, dark crimson in color, glossy, firm, juicy, subacid, and excellent.

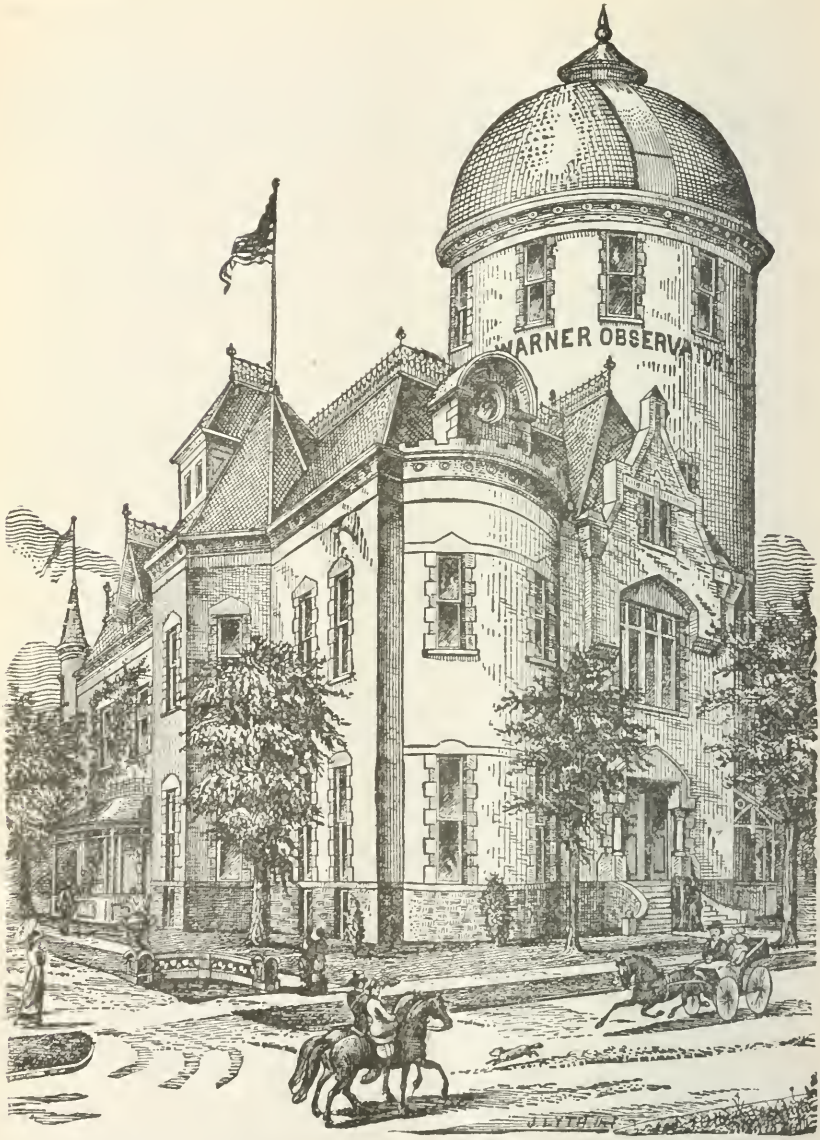
Mr. John Little, of Fish Creek, Ont., an esteemed member of our Ontario Fruit Growers' Association, is reported as saying of this berry:—"I have fruited it for three years, and every year like it better. I have tested all the new comers so far, and for productiveness, large size, beauty of berry, and continuing long in bearing, there is none to compare with the Daniel Boone for medium crop." In a letter just received from Mr. Little he says, the Daniel Boone is all I have said about it heretofore, the plant is strong and stocky, leaf large and tough, color dark green, fruit stalks the largest of any in my garden, fruit large; I have nothing here to equal it in size, and beauty of berry; quality good, color bright red, yellow seeds. I have no plant here will hold out in size of berry to the end as good as it does.

I did not cover it until this year, never covering before, and it always came out right in the spring. I had plenty of berries of the Boone so large that thirty of them would more than fill a Disbrow quart basket and that with ordinary culture.

From the reports I have of it from others sections I am of the opinion it will agree with our loamy soil and peculiar climate.

SPECIAL NOTICE.

Any person sending ten dollars, with the names of ten new subscribers, to the editor of the *Canadian Horticulturist* will receive a vine of the new white grape JESSICA.



ASTRONOMICAL OBSERVATORY.

There is in the City of Rochester in the State of New York an astronomical observatory which is free on Tuesday and Friday evenings in each week to the public. This is a new feature in the way of astronomical observatories, and we suggest to our readers who have any desire to look at the stars through a telescope, to avail themselves of the opportunity whenever they may have occasion to visit Rochester. We under-

stand that this observatory was founded and most liberally endowed by Mr. H. H. Warner, of Rochester, N. Y. for the purpose of *popularizing* as well as promoting astronomical science, and that by applying at his Office Nos. 36-46 North St Paul Street, Rochester, free admission tickets will be cheerfully granted. The observatory is situate on East Avenue, and is a conspicuous feature among the many beautiful buildings that adorn that thoroughfare. The accompaning illustration will enable any of our readers to recognize it at a glance.

Doctor Lewis Swift is the Director of the observatory, known as the discoverer of numerous comets, and the winner of the Lelande prize from the French Academy of Science. Visitors will find him most courteous and obliging and will be made most cordially welcome. The telescope is the third in size of any in America, being twenty-two feet in length and having an object glass of sixteen inches diameter; its weight is over four tons. The tower is arranged with all the latest appliances so that this ponderous telescope can readily sweep the heavens in any direction.

THE SUMMER MEETING.

of the Fruit Growers' Association of Ontario will be held in the Town Hall, Berlin, County of Waterloo, on Wednesday and Thursday, the 25th and 26th of June next.

This meeting is to be held there upon the joint invitation of the Town Council and Horticultural Society of Berlin. It is expected that there will be a large atttendance of members, and that the meeting will prove to be one of the most interesting ever held. A programme of subjects for discussion will be prepared and mailed to each subscriber, with full notice of all arrangements connected with the meeting, in good time to enable members to be present.

FRUIT LIST FOR EACH COUNTY IN ONTARIO.

By instructions of the Board of Directors of the Fruit Growers' Association of Ontario, the Secretary has prepared a list of all the apples, pears, plums and grapes known to be grown in Ontario, with columns opposite in which to indicate time of ripening, quality, color, size and hardiness, and value for cooking, dessert, local and foreign markets, &c. Twenty copies of this list are to be sent to each officer, who upon receiving them is to send copies to the leading fruit cultivators in each county in his agricultural division, with a request that they be filled up and returned to him by the persons to whom they are sent. After the director sending them has received them back with the replies thereon, he will compare those received from the same county and make up a report from each county in his division, and send these several county reports to the secretary in time to be presented to the next Annual meeting. We hope that gentlemen receiving these blanks will have the kindness to assist the officers of the Fruit Growers' Association in their efforts to prepare a list of fruits that will be a reliable guide to the residents in each county in the Province.

BRANCH SOCIETIES.

At the last meeting of the Directors of the Fruit Growers' Association of Ontario it was decided that branch Societies, consisting of not less than ten members can affiliate with this Association on payment of eighty cents per member, which shall entitle to all the privileges of membership in this Association.

The proceedings of such affiliated Societies will be published in the Annual report of the provincial Association.

COUNTY AGRICULTURAL EXHIBITIONS.

The Board of Directors of the Fruit Growers' Association of Ontario have ordered that each Director shall make such arrangments as he may deem best to secure the attendance of two or three competent members of the Association at the County Exhibition of each county in the Agricultural division which he represents, whose special duty it shall be to render all the aid in their power to secure the correct naming of the fruits exhibited, and to give such information and assistance to exhibitors of fruit as it may be in their power to afford.

We believe that this action of the Directors will be most gratefully appreciated by all Exhibitors of fruit at our several county exhibitions, and we trust that it will be possible to secure the attendance of the best men for this work. No doubt but the officers of the several county shows would be glad to secure the services of such men as judges of fruit exhibited.

THE PREMIUM SEEDS.

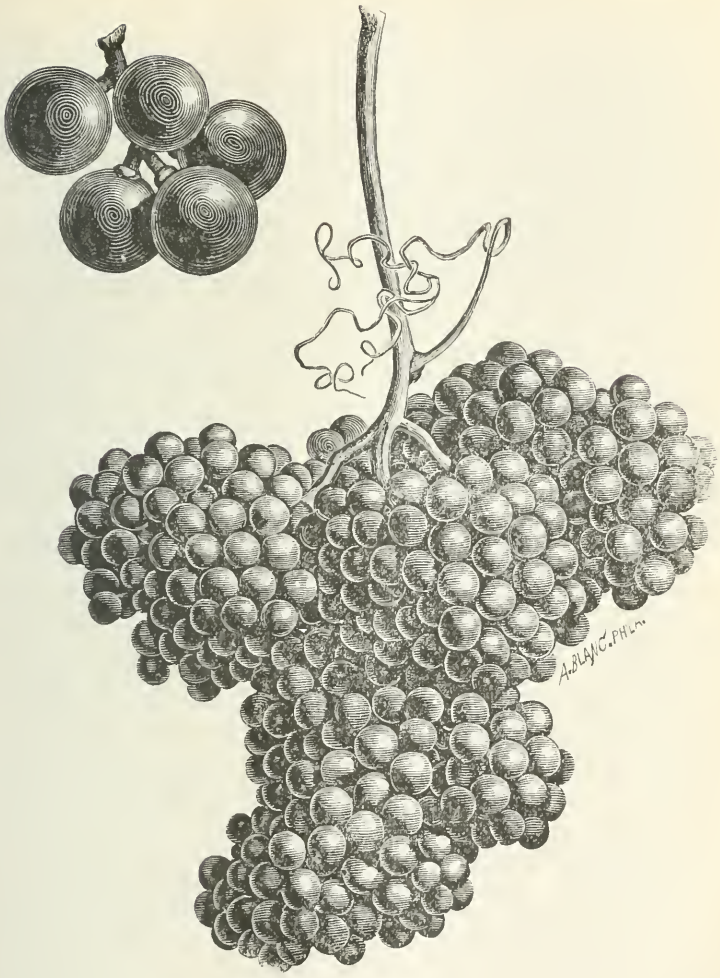
Our readers will be able to appreciate the efforts which have been made by the Association to secure seeds of the very best quality for distribution to those who desire them, when they learn that the Pansy seed which has been sent to them cost in Scotland ten dollars per ounce. The other seeds are also of the very finest quality, although not costing quite so much. It was therefore not possible to give a large quantity of such seed to our members, yet enough has been sent to each to enable them to raise several hundred very choice plants that will gladden their homes with beautiful flowers. The seeds have now been sent to all who asked for them up to the time of going to press.

EXPERIMENTING COMMITTEE

The following gentlemen were appointed at the winter meeting of the Fruit Growers' Association, a committee to make experiments with various substances, and in several methods of application, for the purpose of ascertaining if any means could be found of destroying or preventing the black spot, or scab that appears upon so many of our very valuable apples, notably upon the Snow Apple, Early Harvest, McIntosh Red and Fall Pippin, often rendering the whole crop worthless. It was understood that the President would place his valuable chemical knowledge at the service of the Committee, and suggest such substances as from his scientific knowledge he thought likely to prove to be efficacious. The gentlemen are Messrs John Croil, Aultsville; Charles Hickling, Barrie; Linus Woolverton, Grimsby; P. C. Dempsey, Trenton; B. Gott, Arkona; Richard Martin, Woodstock; A. McD. Allan, Goderich; and Samuel Cornwell, Norwich. If any of our readers can make any suggestions to further the work of this Committee they will be thankfully received.

THE COCHIN CHINA GRAPE.

This is altogether different from the grape vines with which we are familiar. It is a tuberous rooted plant, growing up annually from the ground, and after producing its crop of fruit, dying down in autumn. It is found in Cochin China, where in some of the forests it grows to the height of a hundred feet, clambering over lofty trees; or such support failing, it runs along the ground. It is said to be very productive, the vine often presenting the appearance of a mass of clusters of grapes from the bottom to the top. It is found growing at altitudes varying from one hundred to three thousand feet above the level of the sea. Experiments are



The Cochin China Grape.

being made in California looking to the cultivation of this tuberous rooted grape in that country. Seeds have been procured and disseminated among some eight hundred persons in different parts of the country, who will spare no pains to acclimate this new grape on the Pacific coast. It is believed by those most competent to judge, that it can be made a successs in all the vine growing regions of that country. The accompanying cut will give our readers a correct impression of the form and general appearance of the clusters of this grape, while the size of the berries is shown in the small segment at the upper left hand corner.

A similar vine has been lately discovered on the coast of Guinea by Senor Arpore, who was sent to that country by the Portuguese Government in charge of a scientific expedition.

This vine grows only about four feet high, and yet bears a crop of from ninety to a hundred pounds. A special report will be made upon it to the Portuguese Government. It is said that the fruit is delicious, and that the wine made from it is excellent. Perhaps some species of this vine may be found in more northern climates, which we may hope to be able to grow in our cold north country.

QUESTION DRAWER.

Mr. Editor,—I have long been looking in the *Canadian Horticulturist* to see if I could get hold of the most approved method of canning fruits and vegetables as practised in the factories. I suppose the method would be much the same on a small as on a large scale. Do not you think that if you could give an article on that, if you are able to get, or if you know the most approved method, it would be acceptable to many readers? G. J. R.

That "*if*" is sadly in the Editor's way, "*If you know.*" Will not some of our readers *who do know* please reply.

Is May or June the best time to move pines, spruces and balsams?

A. T .H.

Ans.—We have found that the very best time to transplant evergreens is just when the buds are swelling to commence the summer's growth; and, if possible, select a cloudy day. The date when this will occur will vary with the season, and cannot be designated by the almanac.

What is the best way to train the grape vine here in Muskoka? Would they do grown something after the style of raspberries, with two or three poles to a vine, to grow a cane one year to bear fruit the next? or have permanent shoots and grow on the spurs? or shall I cut down all annually and trust to the young shoots from the cut down shoot to bear fruit? A. T. H.

Will some of our readers who grow grape vines in our cold districts please give A. T. H. their method.

As a knowledge of what weather we are likely to get is a matter of considerable importance to all gardeners, can you or any of your readers say if the upper clouds come from the west and lower clouds or smoke from the east; are we likely to have fine weather or rain?

We have our Vennor, it is true, to apply to, but he is such a very false prophet, almost as bad as El Medhi.

Toronto. W. W. R.

Will those who have ascertained the probability please answer.

Where can I procure hasps and hinges suitable for berry crates; also good baskets that are made in this country.

What would you advise to be grown for fodder or strawberry mulch, on an exhausted strawberry patch, after the last picking.

It is rumoured in this section that small fruit growers will be obliged to use baskets holding the imperial measure the coming season, do you know whether such is the case or not?

Vanessa. D. E. B.

Will some of our readers who grow and market berries please to reply to these questions, and those who have baskets, &c., to sell, will please advertise.

FLORIDA IN WINTER.

(Continued from page 27.)

In the course of our ride from Cedar Key to Jacksonville, we noticed that the houses which are scattered here and there in these pine barrens are very like the log cabins of our own pioneer settlers. For some reason, satisfactory to the builders no doubt, these log cabins, and indeed all the dwelling houses, are set up on posts about three feet above the surface of the ground. It cannot be because of frequent inundations, for surely this pure sand soil would never hold water.

The towns along the line of the railway have a very neat and attractive appearance in their white houses, half hid among the evergreen oaks, or embowered among orange trees, whose dark green leaves form a rich setting to the golden fruits. Halting at one of these towns we noticed some men on horseback, but the horses were each attached to a cart. This to us is a novel style of riding out. The riders wore broad brimmed, slouched hats; were of a somewhat sun-browned complexion, and suggested by their general appearance that they might be the descendants of some of the old time Spanish settlers, who once held this land. Why they rode on their horses and not in their carts, we leave you to conjecture; evidently it was their way.

We saw but few living creatures during this day's ride. Even birds were scarce. The most noticeable was the buzzard, a species of vulture, somewhat larger than our hawk. These were lazily wheeling high up in the air, or perched upon the dry branch of some tall pine. Neither their personal appearance, nor their habits of life make them an object of attraction, and yet they alone of all the birds are protected by law.

Jacksonville was reached late in the afternoon. This is the headquarters of Florida visitors; whether here seeking health or amusement, or to escape the cold of our Northern winters.

It is largely made up of winter hotels and boarding houses, which at this season are full to overflowing with Northern people, giving an air of bustle and stir to the place. The trains come and go well filled with passengers, the steamboat decks and wharves are crowded, and the sidewalks echo with the tramp of many feet. In a few more weeks these visitors, like so many birds of passage, will have flown northward; and when the season is over, and things settle down to their normal condition the contrast must be very marked. So far as we were able to see, there is little done here in the way of commerce beyond the trade in oranges and commercial fertilizers. We saw but few natural products in this vicinity that the country raises in sufficient quantity to export. The hotels depend upon the north for a very great part of their supplies; for their fresh meats even, and vegetables. The bills of fare look very tempting surely, telling you of green peas, string beans, asparagus, etc.; but alas for our expectations, they were grown last summer, perhaps in your own vicinage; at least your Canadian grocer can furnish them just as fresh and sweet as those you get in sunny Florida.

The Sabbath day broke bright and beautiful, and quiet reigned; contrasting pleasantly with the previous Sabbath in New Orleans. There a very large part of the stores were open and driving as vigorous a trade as on any day of the week; here for the most part they are closed. The railway trains and steamboats did not cease to run, but the mass of the people observed the day of rest. As we fell into the current of

passers-by wending their way to church, we found the air balmy as June and sweet with the odor of orange blossoms and yellow jessamine. Wistarias were hanging their purple clusters from many balconies, while spireas and climbing roses wore bridal wreaths of white. The oleanders were just opening their flower buds, and the China trees were almost in bloom. Yet after all, how shall I convey to you the impression which the view down these streets makes upon one accustomed to Canadian village scenery? There is here no bright green lawn neatly shaven, to set off and enhance the beauty of the flowers. The sand, the sand is everywhere. Through it some scattered blades of coarse grass are struggling for life. There is also a general lack of tidiness about the yards and dwellings; an absence of that appearance of comfort and taste which makes our Canadian village residences look so home-like and cheery. But for all there is something very fascinating, on this fourth day of March, in walking beneath these wide spreading trees, and breathing the balmy fragrance laden air, to one, who, at this season has ever been compelled to wrap his mantle close about him, and then scarce able to keep out the chilling March wind that makes one's very bones to shiver.

On Monday morning we embarked on one of the steamboats bound up the river, our destination being the ancient City of St. Augustine. In this part the St. John's river is broad, but by no means proportionately deep; the current is very sluggish, and the water is of the color of strong tea. We were told that when the tide comes in, the salt water from the ocean runs up at the river's bottom in a strong current of sea water running up the stream, while the fresh water of the river runs over it in the opposite direction without ever mingling. None of us went down to test the accuracy of the statement. The scenery as we pass up the river is pleasing, with a calm, placid beauty. The trees on the river bank are mirrored in the smooth waters. There are no hills to break the outline of the horizon, nor mountain peaks to give an element of grandeur to the prospect. Numerous small villages on either side of the river give life to the picture; the white cottages gleaming brightly through the foliage of the evergreen oaks that skirt the broad road that runs by the river side. At one of these villages called Mandarin, about fifteen miles above, and yet south, of Jacksonville, Mrs. Harriet Beecher Stowe, whose name has become familiar to us all as the authoress of Uncle Tom's Cabin, has her home. As we steamed past, our attention was directed to a neat residence with a verandah running across the front, and with dormer windows in the roof, which stood prominently conspicuous from our steamer's deck, as the one in which she lived.

About eleven o'clock we reach Tocoi, forty-three miles south of Jacksonville, where we leave the steamboat and take the cars for St. Augustine. We looked to find a village here, but saw only a small railway station on piles, with a cabin or two near by to mark the site. The ride by rail to St. Augustine, distance fourteen miles, is through as desolate and forlorn a country as one need ever wish to see. Flat and monotonous indeed, and nearly sterile; the soil seemingly too poor almost, perhaps quite, to grow white beans. But we try to endure it patiently, for the ancient city that we are going to see lies beyond. How often is this repeated in life. The present ill for the future good. The patient endurance now, the expected joy by and by. The pathway of life, with its rugged places, its clouds and storms, but it leads to the eternal city. The cross now, the crown yonder.

FRUIT GROWING IN THE NORTH.

THE "WEALTHY" APPLE.

Mr. Editor,—As you appear to wish that as many of your readers as possible should give their experiences in fruit culture. I will endeavour as well as I can to gratify that desire; although I feel that from the short time I have been in this part of the country these experiences will have but little value.

Although fully of opinion that anyone who plants apple trees for marketing purposes would act wisely in confining himself to very few varieties, I felt that before I could place my dependance on any one kind I must first know whether that kind would suit the soil and the climate in which they were to grow; and as I found it impossible without experience to satisfy myself on that point, it was wiser I thought to have three or four leading kinds, so that if one failed the rest might succeed; I therefore selected four leading varieties and in doing so I made four mistakes, these were: Northern Spy, Baldwin, Greening and Rox Russets, four kinds that will be found in every list as recommended by our own fruit growers as well as those in most of the United States; and what could I do knowing but little practically myself, but follow the advice of others. These men, no doubt embodied in their recommendations such fruits as would be the best in their own localities, but none of them lived as far north as the County of Simcoe; and I did not pay as much regard as I should do now to the nature of the climate, from which such recommendations came. I have called the N. Spy a mistake, the fault is that it is too long in coming into bearing; but the other three are too tender for this latitude. I think my soil is all right, it is part sandy, and part gravelly loam, with sand and gravel for subsoil; so that the trees cannot complain of having wet feet; but still the Rox Russets and Greenings are dying off at the rate of three or four every year; out of an original fifty of each, fully half of them being gone, and replaced by others inside of five years; the Baldwin does a little better, but is far from satisfactory; several of them look scrubby; wounds appear in the bark and dead wood in places; and these affected in any way never get better. They are just beginning to bear, and I expect the effort of ripening fruit will be too much for a great many of them, and yet, strange to say some of them are fine healthy looking trees; and a few of the Greenings and Rox Russets are looking fairly well. I have seen very fine Greening apples grown in this neighbourhood when top-grafted on seedlings, but would not recommend anyone to grow them on their own roots, or perhaps I ought to say on their own trunks. I have a few Ribstone Pippins, but they are not doing so well as to encourage me to plant any more, they grow sprawling and do not look healthy, they blossom profusely but bear little fruit. The Wealthy, Red Astracan, Hastings and St. Lawrence are growing finely and look healthy, as also the Duchess and Gravenstein; the Ontario received from the F. G. A. is a fine tree and has borne fruit the two last years, the fruit is of good size and hangs well on the tree, and I am inclined to think it may prove valuable in the north as well as elsewhere.

In later plantings I have endeavoured to avoid the mistake I first fell into by growing nothing but Ironclads, such as Wagners, Ben Davis, St. Lawrence and Duchess, I planted thirty Wagners last spring, and having occasion to remove some of them in the fall, I was surprised at the large bunches of small fibrous roots they had formed, I could compare them to nothing but the roots of a black currant. I look upon this as an indication that the soil suits them.

Advertising new varieties of fruit beyond their deserts has really become so much the custom, as all fruit growers are aware, that no one expects them to answer their descriptions, and if they do, and if by any chance they should turn out actually better, not only better than expected, but better than promised, there is, what shall I call it? Disappointment, but that is not a good word; it is true you may have expected in the light of previous experience, some sort of shortcoming or failure, and not getting what you expected, it would naturally be said you are disappointed; such Mr. Editor is the nature of my disappointment with the Wealthy apple. I had been led to expect something similar to the Snow, something better had been promised, but you know I did not expect that; imagine therefore my delight on finding the tree as hardy and healthy as a Crab, and seeing the perfectly shaped specimens of fruit without spot or blemish that were growing on my trees, daily increasing in size and colouring as they grew a beautiful red, not so dark as the Snow, but more attractive, till they approached as near perfection in appearance as could be wished; perfect in shape and averaging larger in size than that once famous variety, and producing as much fruit on sixteen trees last season as the rest of the orchard, although comprising no less than two or three hundred trees that were planted at the same time.

But what about its flavor for eating and its qualities for cooking?

Well, Mr. Editor, you see there are a great many boys round these parts who have an idea that they have as good a right to eat apples when they can get them as if they grew them themselves, or if they have no such idea, they carry out the principle, or want of principle into practice, whenever they have an opportunity, all the same, so it becomes dangerous to have choice fruit on the trees until it becomes ripe, or until some one arrests the process of ripening in an illegitimate way, and what a state of things does this necessitate, hundreds and thousands of bushels of immature fruit plucked from the trees every year because the owners prefer immature fruit to no fruit at all. I have heard temperance lecturers argue that we have a right to prohibit, put down, and abolish everything that becomes a public nuisance, and that interferes with the rights and liberties of others; now what a blessing it would be if one could get them to abolish the boys; for if there is a greater nuisance from a fruit grower's point of view than these lawless vagabonds, let some one rise and explain. But all this has nothing to do with the flavour of the Wealthy apple, of which, at present, I must acknowledge myself not fully qualified to give an opinion; all the apples I could find on my trees were picked before being ripe, they were tried in my own family and amongst my friends, and pronounced very good, and I was not aware at the time but that they were in as good condition for eating as I could ever expect to have them; but passing through my orchard quite late in the fall—I am not sure but some snow had fallen previously— I found under one of my trees two Wealthy apples, and they proved to be much superior to those previously tried; they had acquired a certain aromatic flavour not unlike that of a pear, which placed them in my opinion in the front rank as a dessert apple; those tried for cooking were in an unripe state, and as such not equal to the Red Astracan or Gravenstein in the same condition; I should suppose that although they can be used for cooking, their proper place is as dessert, and as such they will supply a want that has been much felt.

I have jotted down a few notes about grapes, but as this article is already long enough I will keep them for another letter. Yours, etc.,

A. HOOD,

Barrie, Ont.

FRUIT IN NORTH SIMCOE.

MR. EDITOR,—As your columns are open to contributors a few remarks on fruit growing in this northern county may not be uninteresting to some of your readers. Fruit growing in this county has not received the attention it deserves for several reasons. First, it has been a source of disappointment to a great many who have spent hundreds of dollars on fruit trees and have scarcely anything to show for it. Now, this comes from planting fruit which is not congenial to the climate, and from improper care. There are varieties of apples that flourish seventy miles to the south of us on the borders of Lake Ontario that will not thrive with us, for example, the King of Tompkins, the R. I. Greening, and the Northern Spy, and a host of others that is of no use planting here. Years ago, when the agents of Yankee nurseries came round they sold vast quantities of those varieties that looked best on paper, that is in their plate books. I know that hundreds of dollars worth of King of Tompkins were sold, and now I only know of two trees that are alive and bearing within a radius of several miles. The same may be said of the R. I. Greening. But some will be ready to say "Oh, but the Northern Spy does well with me." I grant there is a number of the trees in bearing in this district, but my experience of the Spy is this, it is a long time before it begins to bear, and when it begins to bear it begins to die. I can point out instances of it in every orchard that I know. First, one side turns yellow, then dies, and a large limb falls out and shows the heart to be rotten, and then the rest of it soon follows. There are several other varieties that I could name that do not suit our climate. The varieties that seem to do the best with us are the following: Among the harvest apples, first and foremost among these comes the Duchess of Oldenburg, a thrifty tree and an early and abundant bearer of apples which do not spot. Red Astrachan does fairly well but spots badly. Early Strawberry, early Harvest, and Brockville Beauty all do well. As to fall apples the St. Lawrence, Alexander, Fameuse, and Tolman Sweet are among the hardiest varieties here, although the Fameuse has spotted so badly of late years as to spoil its market value to a great extent. Among winter varieties the American Golden Russet unquestionably stands at the head of the list. Tree, a smooth hardy grower, a long liver, and a regular bearer. Then we have the Roxbury Russet, Spitzenburg, Ben Davis, and Red Pound, all hardy and thrive well here. The varieties that I have named are the leading varieties, and the ones that pay the best to plant, because with proper care, all those named are sure to succeed. And now

A FEW WORDS AS TO CARE.

Many people plant a tree as they do a post, and expect it to grow and take care of itself. Many young orchards are sown with grain and then seeded down to grass, which eventually becomes a twitch grass sod. There is no surer way of killing the trees, and this accounts in a great measure for the sorry, scraggy looking specimens one often sees as the result of careless culture, coupled with injudicious choice as to varieties. But with the proper varieties and careful culture we can grow as fine fruit as can be grown in

the Dominion. I think the same remarks apply to pears as to apples. It is only the hardiest varieties that succeed here, but those that do succeed here, produce very fine specimens of fruit. We can grow a great many varieties of plums, although the black knot and curculio attack them here as well as elsewhere. But I believe that the most successful way of raising the finer kinds is to top-graft them into the native seedlings. As to cherries the Early Richmond takes the lead. It seems to be the standard variety for this country. I have tried year after year to raise the black and yellow kinds but have always failed. It seems to be too far north for them. I believe the Fruit Growers' Association of Ontario is doing a grand work in the dissemination of knowledge on matters pertaining to growing fruit, and in introducing new varieties. And here let me say that the country owes a debt of gratitude to those men who have spent time and money in propagating, testing, and introducing new varieties of fruit suitable to the varied climate of this country. Those men have done their fellow-countrymen a service that should not be soon forgotten. They have left very legible footprints on the sands of time. I am one of those who believe there is a great future for Ontario as a fruit growing Province. It is making rapid strides at present, thanks to the Fruit Growers' Association, and to those veteran fruit growers who have associated themselves together in this society, and given to their fellow-countrymen the benefit of their vast experience. Some people said years ago "Oh, what's the use of planting fruit, it will be a drug in the market in a few years." But instead of that, as years roll on, the demand keeps increasing. Fruit never brought so good a price as it is doing the present winter. And now, Mr. Editor, excuse me for occupying so much of your valuable space. At some future time I hope to afflict you again with a letter on the growing of small fruits in this district. Wishing you and the Association every success. I am, yours respectfully,

G. C. Caston.

[Note.—Such letters as this are the kind of affliction that is changed to pleasure. We hope our kind correspondent will soon favour our readers with his experience in cultivating small fruits. Such lessons from personal experience are of great value.—Ed.]

APPLE TREES IN IOWA.

Your note on page 71 is too sweeping. On our black prairie soils all varieties of grade of hardiness of Ben Davis were killed. But the Duchess, Wealthy, Wolf River, Plumb's Cider, and others of this grade stood. On light-colored bluff soils the Ben Davis, Grimes' Golden, Willow, etc., were not much injured. Yet the losses in the prairie States were truly immense, as the greater part of the whole area has the black soil. The Russians are all hardy, that is the true Russians from the interior. Yours,

J. L. Budd.

CANADA BALDWIN.

The Arnprior *Nurseries* say of this variety, "We find it as hardy as any of the following:—Wealthy, Duchess, Tetofsky, Montreal Peach and Plumb's cider. And any of the above will stand our hardest winter. It is also a very free grower, but not so free as the Wealthy. It came out all right when the Fameuse was badly winter killed. It does not do well on light soils, it prefers a heavy loam touching on clay, on light soils it grows very slowly while on heavy soils it is a fine grower.

G. H. J.

COUNTY OF RENFREW FRUIT GROWERS' ASSOCIATION.

To the Editor of the Canadian Horticulturist.

There have, no doubt, been great difficulties encountered heretofore in the cultivation of fruit itself in this district, and there are probably many difficulties yet to be overcome; but there was not the slightest trouble in organizing what promises to be a very successful County Fruit Growers' Association. From the first, the idea of a meeting to "rub noses" on horticultural and kindred topics was received with favour by the farmers and amateurs of the immediate vicinity of Renfrew Village and even by enthusiasts from extreme ends of the County; and the Association started into life with nearly fifty members, everyone of whom, through it, became a member of the Ontario Association.

The inaugural meeting was held in the Town Hall, Renfrew, on the afternoon of Tuesday, Jan. 22nd, and about half of these members were present, besides a sprinkling of interested visitors. The officers were selected from the town and various townships represented, as follows:—President, A. A. Wright, Renfrew; Vice-President, David Halliday, Horton; Sec.-Treas., W. E. Smallfield, Renfrew; Committee, Andrew Forrest, John Johnston, Allan J. Lindsay; Robt. McLaren, Horton; James Fraser, Bagot; John Stewart, McNab; R. Humphries, Ross; and Donald Campbell, Admaston.

After a short address by the President, the work laid out for the first meeting—the preparation of a reliable list of the apples that have been successfully grown in the district—was proceeded with. Every member present, in turn, was called upon by name to relate his experiences of success and failure in full. This informal and conversational style of conducting the meeting was received with favour, and secured good results. An extended report of the information thus gathered will appear as an appendix to the Ontario Association's Annual Report, but as that will probably not be published for some time, a summary of the "experiences" may prove of use to those living in similar districts who wish to purchase stock this season.

There was a unanimous decision in favour of the Wealthy and Duchess of Oldenburg apples Everybody grows them, and they succeed with everybody. Tetofsky is also almost universally successful; and the Walbridge, McIntosh Red and Red Astrachan, though not so generally fruited, are all giving very fair satisfaction. The Fameuse is not so generally grown as might be supposed, but there are some very old trees in the vicinity, bearing splendid crops. The Alexander and Pewaukee were variously reported on, but with a majority in their favour. This completes the list of really reliable trees, although there were a large number of others spoken of succeeding and failing with individuals—not sufficient evidence, however, to make or condemn their reputations for general hardiness and fruitfulness.

Mr. Wright read the paper on "Apple culture in the cold north," which he also presented before the Ontario Association at the Woodstock meeting.

The members were requested to make a large display of grapes at the local Agricultural Society's next Exhibition; and to note the dates when they commenced to colour and when they ripened.

It was decided to hold another meeting in June or July for the discussion of the subject of "Small Fruits."

The success of the meeting was so

evident that the farmers present were encouraged to proceed with the organization of a previously-talked-of Farmers' Club, which has since held some interesting and well-attended meetings.

Some conversation and discussion on Mr. Phipp's work in the way of Forest preservation, concluded the proceedings.

In the January number, referring to the attempt then yet to be made to start this County of Renfrew Association, the editor of the *Horticulturist* urged the fruit growers of other counties to take steps to organize similar branch societies. I have no doubt that the advice of all those who were present at the Renfrew meeting, to their fellow labourers all over the Province, would be—"Act on the editor's suggestion at once."

Renfrew would probably be considered one of the last districts in the Province where it would be thought possible to form a successful association of the sort; but it only needed that the ball should be set rolling, and then it moved along smoothly and well.

Besides the enthusiasm kindled, and the information which must necessarily be gained from the interchange of ideas by a number of persons heartily interested in the same work, the association may fairly claim to have been of benefit in other ways. The publication of its first fruit list has probably saved many dollars to those in the neighbourhood who are just beginning to take an interest in this important industry, and who would otherwise have been very much in the hands of tree peddlers—scrupulous or unscrupulous, just as it happened. And the addition of fifty names to the membership list of the Ontario Association, means fifty more readers of the *Horticulturist*, and consequently fifty more intelligent enthusiasts.

W. E. Smallfield,

Renfrew, Feb. 22, 1884.

WHAT OUR READERS SAY.

I must congratulate you on the improvement in the appearance and so much intelligent matter contained in the monthly visits of the *Horticulturist*, in its bright pages, wishing you every happiness and a very, very pleasant Christmas.

John Little,

Fish Creek, Ont.

Dear Sir,—I need hardly say that your publication is almost invaluable to the amateur gardener or horticulturist, and is worthy of extensive patronage and circulation.

J. K. Falconbridge.

Richmond Hill.

I like the *Horticulturist* very much and wait with impatience the coming of each monthly issue. I find its articles clear and most practical and well fitted to assist the great majority of Canadian farmers, who are beginning to take more interest in their orchards and gardens, and I look forward with great pleasure to the time when our landscapes will wear more of the grace and beauty of the "Old Country." This can only be accomplished by each landowner taking a pride in his home, and endeavouring to beautify it with those simple treasures of flowers and fruits and trees which a bountiful Providence has placed within the reach of all.

Yours truly,

Minising. Fred. Foyston,

THE CANADIAN HORTICULTURIST AND REPORT.

Dear Sir,—I want the *Horticulturist*. Could not well do without it with its improvements every year, and if your annual report improves as it has done the last two years it will soon be worth three times the money.

Wm. Gillett,

Marchmont.

ENGLISH SPARROW.

To the Editor of The Canadian Horticulturist:

Dear Sir.—If what I read in the Toronto daily newspapers is correct your association has fell foul of the English sparrow once more, and as I was born and spent all my early days in a fruit growing section of England, and where the sparrow was far more numerous than in any part of Ontario —so numerous that one half-penny was paid for every one brought to a certain official appointed by the Council, and notwithstanding the above facts I beg to express my astonishment at a fruit grower being an enemy to the sparrow, for certain I am that the sparrow is the best friend he has amongst the feathered tribes. He does the fruit grower all the good he can. He eats the tent caterpillar's eggs; he eats the spider's eggs, and even the spider dirts up our fruit with its webs; and for three consecutive years the sparrow cleaned off all the caterpillars from my cabbages. Unfortunately the latter service they do not perform until they have done nesting (the last of August), and the caterpillars do considerable damage before that date, but I find dusting buckwheat flour on the cabbage to be a sure cure; any other flour is just as good but more costly; any other fine powder will do just as well as flour. But this is running away from the poor sparrow, and I do not wish to do so until I have asked those of your readers who accuse him of eating, yes! the bud of the gooseberry bushes and I know not how many more bushes, to reconsider the matter, to withdraw their verdict until they see a hundred or so of them light on one of their bushes, and have hopped and picked all over the bush. After this and the sparrows have gone, if Mr. Fruitgrower will kindly step out and examine the bush I will guarantee he will find all the buds on the bush. If all will do this they all will ask themselves the question "What were the little creatures picking at if not the buds?" The answer to this question I will leave in the hands of our worthy president. Some will be wondering why a half penny was paid for his head if he did so much good, and as I believe in both sides being seen I will, with your permission, show the other side of Mr. Sparrow, not that the fruit growers of my native country ever saw but one side, and did not contribute one cent willingly to have the number reduced. No it was the farmers who complained against the poor wretch, and got the Council to offer a reward of a half-penny for his poor head, as I suppose they thought this better than to have to hire boys to guard their wheat fields. Had they (the farmers) grown sunflowers the sparrows would have had their share of them. too. And I would recommend market gardeners and others to sow a few sunflowers near their cabbages to attract the sparrows; if they do this the sparrows will take some of the seed, and will clean out all the caterpillars. Some in Canada say the sparrow drives other birds away; some have even said they kill the native birds. They will certainly take possession of the holes in buildings, &c., that swallows had nested in the year previous, so that when the swallows come why of course there is a little fuss for a day or so, but the swallow finds itself another place to nest in, as also does the blue bird. This I am certain is all the trouble between the sparrow and other birds, and I am also certain that the wheat and sunflower are the only two grain crops that they do any harm to, and this only when in a soft or milk state. I have read about his eating oats. I have even read that he was wholly destroying the French-Canadians' bar-

ley crop, and many other things they were accused of doing, and I thought "Well, poor sparrow, what a shame it was to bring you to this country, and to so reduce you with hunger that you had to eat either oats or barley, neither of which you ever touched in your native home." But suppose he has all the faults some say he has in eating oats, barley, &c., why can't fruit growers leave him alone until he has exterminated the tent caterpillars and a many other enemies the fruit grower has to contend with. They do not eat fruit, at least they never ate any in my grounds, and I have grown cherries, grapes, gooseberries, red, white, and black currants; raspberries, both black, red, and white, several kinds of strawberries and plums.—quite an assortment—so that if they had any taste for fruit they would have tried their beaks on some of them, but not one variety did they ever try on my place, and I have seen hundreds of them at a time. In conclusion, Mr. Editor, let me urge it upon the fruit growers of Ontario to leave the poor sparrow alone, and if he is to be exterminated let it be for some harm he does, but never accuse him of eating fruit, for he eats none of the varieties I have enumerated, and I might add apples and pears to the list, and even peaches, unless he has acquired a taste for them since he has been brought to Canada, and I am willing to admit that he may even eat barley in this country, but I never saw him so doing.

GEO. MITCHELL.

Perth, Feb. 2, 1884.

GOOD LETTUCE.—A writer in the *Rural New Yorker* says :—The Salamander Lettuce forms a large, compact head, withstands heat and drought, is crisp and tender, and remains in edible condition longer than any variety I have ever raised. It is an acquisition.

REPORT ON PLANTS RECEIVED.

As I understand you want reports of premium plants and trees sent out by the association, I may say my Burnet grape was bearing quite a few bunches this year, but was killed by frost before the fruit began to colour. Moore's Early does not grow very strong. The Wealthy apple is doing well. Saunder's raspberry bears well. Niagara has made a fair start. The Ontario apple is a failure with me. The crab apple trees here were attacked by a blight in the spring of last year, about the fall of the blossom. I have six trees which were covered with blossoms at the time, but it all fell off and the fruit with it, and many of the leaves also fell, those remaining looking withered. Towards fall the trees seemed to freshen up a little; they did not blossom at all this year, but appear to be all right other ways. My trees were not the only ones affected. Some think it was a fly and some think it was frost which caused the young fruit to fall. I think it was the blight.

Yours respectfully,

Hopeville. ROBERT SCOTT,

HARDY SMALL FRUITS.

Now that the importance of the subject of importing scions, seeds and plants of hardy fruits of all varieties from colder climates than ours, for the purpose of finding some varieties better suited to our climatic conditions, or varieties more suitable than any we now have to contribute their hardiness or other desirable peculiarities through hybridizing, or, as more hardy stocks for grafting or budding purposes, is becoming better understood, and is being acted upon by the Fruit Grower's Association, it may be well to give some attention to the fruits of cold countries other than Russia. Judging from the following extracts from a paper read before the Royal Society, England, by

W. M. Williams on "Home Gardens for Smoky Towns," Denmark seems to offer great inducements for an investigation of its wealth of small fruits.

Mr. Williams says:—"The most luxuriant growth of cherries, currants, gooseberries and raspberries I have ever seen in any part of the world that I have visited, is where they might be least expected, viz: Norway; not the South of Norway merely, but more particularly in the valleys that slope from the 500 square miles of the perpetual ice desert of the Justedal down to the Sognifjord, latitude 61° to 61½°, considerably to the north of the northermost of the Shetland Islands. The cherry and currant trees are marvellous there."

"In the garden of one of the former stations (Sande) I counted seventy fine bunches of red currants growing on six inches of one of the overladen down-hanging stems of a currant bush. Cherries are served for dessert by simply breaking off a small branch of the tree and bringing it to the table; the fruit almost as many as the leaves."

I give another quotation from the same article respecting the English sparrow, which speaks for itself.

"Those who believe the newspaper myths which represent such thick-billed birds eating caterpillars, should make observations and experiments for themselves as I have done." T. B.

Lindsay, April 1884.

THE STRAWBERRY.

To the Editor of the Canadian Horticulturist.

The strawberry and I are old friends. I first became acquainted with it on the hills and dales of old Ireland, there I had in my boyhood's days with my young companions eaten till satisfied, and then stringing them on what we call the *wind-straw* or straws of timothy grass.

The strawberry is one of nature's masterpieces of beauty and richness, and an accumulation of these attractions is sufficient to recommend it to the notice of all lovers of fruit.

Until the advent of the Wilson, in '57, it was a luxury to be enjoyed only by the few, now it is indispensable in nearly every family.

Where well grown it is not only cheerfully bought and paid for, but eagerly sought. Every thing connected with its culture is pleasant, and there is no hard work attending it. It occupies the ground but a short time, removes almost nothing from it and leaves it in a good condition for the following crop; while other fruits have their favourite localities outside of which they cannot be grown at a profit, this flourishes on almost any soil and any climate where one cares to live. It requires but little capital and its cultivation is easily learned. It has but few enemies and is one of the surest crops grown. I have cultivated it many years without a failure. It brings a large amount from a small piece of ground, and may be grown in connection with other crops at very little cost.

But yet, although its culture offers so many inducements, only those who have had some experience and who live within a reasonable distance of a good market or a railroad station, should engage in it extensively.

Any land properly prepared and managed may be made just right, and the idea that certain varieties will only flourish on sand and others only on clay, is erroneous and productive of no good except to furnish a crawling-out place for those who introduce varieties that are unworthy of general cultivation.

The bearing out of this statement will be the subject of the next paper.

J. L.

Fish Creek, Feb. 21st, 1884.

STRAWBERRY PROSPECTS FOR THE SUMMER OF 1884.

Dear Sir, — Being a subscriber to the *Horticulturist*, and a grower of small fruits for marketing purposes, and desiring to open up correspondence with other fruit growers throughout Ontario on the prospects of the strawberry and other small fruits this year, through the *Horticulturist*, so that we growers may form some idea of the probable yield of strawberries and other small fruits, and thereby regulate the price according to the supply and demand, and not be left to the mercy of fruit dealers, I have taken the liberty to report the prospects of the strawberry crop as gathered at the annual meeting of the Small Fruit Growers' Association of the Counties of Oxford and Brant, held at Burford, Jan. 24th, 1884. The general opinion of the meeting was that the prospects of the strawberry crop this year are not as good as last year, for the following reasons:—The old plantations, on account of the early frosts and cold wet weather last fall, made little after-growth, and looked weak and sickly when winter set in. New plots, as a rule, are not promising a very good yield on account of being badly thinned out by the white grub. The Wilson strawberry, from some cause, appears to be failing with us for the last year or two. The plants are less hardy and not as productive as they were a few years ago. The Crescent Seedling is the most reliable of the old varieties for marketing purposes with us. It is more productive than the Wilson and is growing in favour with consumers. Of the new varieties the Manchester and James Vick were highly recommended, by those who have fruited those varieties, for hardiness and productiveness.

The raspberry bushes, when winter set in, looked strong and healthy.

The grape crop was a failure last year on account of the early frost destroying them before ripening. The principal varieties grown are the Concord, Delaware, and Clinton.

Those of the members who grow currants and gooseberries for market seem to be satisfied with the investment.

Yours truly,

S. Cornwell.

Norwich, March 8, 1884.

THE GROSBEAKS.

Mr. Editor,—In the March number of your Magazine, which has just come to hand, Mr. Bissell, of Thedford, expresses a wish to know "if the grosbeak (*Coccothraustes ludoviciana*) has made its appearance in any part of Ontario this winter."

It is very desirable that our fruit-growers should interest themselves in the birds and their "economic relations," as these are of far greater importance than most people imagine. About ten years ago a specialist was appointed to report on this subject to the State of Wisconsin, and the report has only recently been published. It shews that the writer, Dr. King, has given great attention to the matter in all its bearings, including the microscopic examination of the contents of the stomachs of 1,800 birds. This was done with a view to ascertain from the nature of their food whether they hurt or help us, and to what extent. "A good deal has been said on both sides," and the English sparrow comes in for a share of odium, yet after all the Dr. has done, he admits that our knowledge of the subject is far too incomplete to warrant us in advocating the total extermination of any one of the numerous species we have among us.

Regarding the grosbeaks there are eight different species peculiar to North America, four of which have been found in Ontario. There is the Cardinal,

(*Cardinalis virginianus*) a jaunty, showy fellow, handsome in form, and brilliant in plumage, with a high top knot. His home is in the Middle States, but once or twice he has been captured on the north shore of Lake Erie toward the west end. Another very showy member of this family is the Evening Grosbeak (*Hesperiphona vespertina*); he is entirely different in color from the preceding, being clothed in the richest black and yellow, which in the spring time shines like ebony inlaid with gold. This species is peculiar to the northwest, but has been once got near Hamilton, and also at London and Woodstock.

The species best known in this part of the Dominion is the Rose-breasted Grosbeak, *Coccothraustes ludoviciana*) which arrives from the south about the middle of May, spends the summer and rears its young in the bush, where its rich rolling song is frequently heard, and retires to the south again about the end of September. It is the *name* of this species Mr. Bissell uses in describing the birds he saw near his place, but it is evidently a case of mistaken identity as regards the *name*, and I hope it may also be so as regards the *habits* of the birds he saw, though I could not be so positive on this point, as no one can tell how far birds will change their habits under certain forced conditions. The species which has appeared in such numbers during the past and present winters is the Pine Grosbeak, (*Pinicola enucleator*); it is a denizen of the north, and in Ontario is classed as an irregular winter visitor. They were here in considerable numbers last winter, remaining from January to the first of April, feeding almost exclusively on the berries of the mountain ash, and red cedar. I have also seen them taking the buds off the pine and tamarack. Toward the time of their departure, they often fed on such apples as remained on the trees, but I have not heard them accused of taking fruit buds. Those we see here are mostly young birds of the first year, and females, plainly dressed in smoky grey, touched here and there with orange. Occasionally we see in a flock an adult male, blushed all over with the richest crimson, which shows with great effect against a sombre background of Norway spruce, among which they frequently seek for shelter. They are of a most gentle and amiable disposition, quite unsuspicious; being reared perhaps in the remote solitudes of the "great lone land," they are little used to the wicked ways of man. This seems a long letter on an outside subject, but after all birds and flowers are closely allied, and I hope your readers will not complain.

Truly yours,

March 10th, 1884. T. McILWRAITH.

JESSICA GRAPE.

To the Editor of the Canadian Horticulturist:

Dear Sir,—I have just received the January and February numbers of the *Horticulturist*. I had not sent in my dollar for 1884, the consequence was no *Horticulturist*. I feel like saying "God bless the papers that dare stop when the subscriptions are run out, and also the groceryman that cuts just a pound of cheese when asked to do so; they are the best kind." The *Horticulturist* is picking right up. The February number is just full of cream. I am pleased with the lithograph of the Jessica grape. I have fruited this grape and can say the plate is a fair representation, except, perhaps, a little higher colour than the Jessica grown on my soil, but must say my soil is not at all favourable for colouring grapes. It is quite refreshing in these times to see an introducer of a new grape in getting up a lithograph to come down to about the right size and not try to make a

grape the size of a Delaware appear the size of Rogers' 15. The Jessica is very sweet, very early, very hardy, and quite productive. I would not do without a vine or so of Jessica for my own use. This last season, when most of the other varities were spoiled with the early frost, we were very thankful for the few Jessicas we had. There have been wonderful improvements made in grapes suitable for Canada, and we have not got to the end yet. Who would not grow grapes now?

Yours respectfully,

ALLEN MOYER.

Jordan Station, Feb. 5, 1884.

EXPERIMENTS WITH POTATOES.

MR. EDITOR,—A neighbor has been making some experiments in the cultivation of potatoes which seems so likely to be of interest to your readers that I send you the following account.

Last season he planted equal areas of ground in close proximity, so that there was no apparent difference in the quality of the soil, with the Beauty of Hebron potatoe, cut to sets of one to two eyes. In one piece of ground he planted the potatoes in hills, the rows three and a half feet apart, and the hills the same distance apart in the row, putting two pieces in each hill; in another he put three pieces in each hill, and in another four; observing in them all the same distance between the rows and between the hills. When the potatoes were ripe he had them dug and carefully weighed, with the following result, viz:

The hills in the area planted with two sets produced	117 lbs.
The hills in the area planted with three sets produced	132 lbs.
The hills in the area planted with four sets produced	141¾ lbs.

As the hills planted with four sets produced considerably more small potatoes than those planted with three, he considers that three sets is the preferable number when planted in hills.

Other like areas he planted in drills, running the drills three and a half feet apart, and placing the potato sets nine to ten inches apart in the drill. One of these areas he did not cultivate at all, but as soon as planted covered it to a depth of from four to six inches with clippings from the lawn. Had straw been at hand, he thinks mulching with it would have answered as well, if not better. The other area he cultivated in the usual manner. When harvested and weighed, he found that the portion planted in drills and cultivated, produced 160 lbs.; the portion in drills uncultivated, but mulched, produced 156 lbs.

This shows a much larger product from drills than from hills upon an equal area of ground, and but little less from the drills that had been mulched than from those that had been cultivated. The area that was mulched required no labor in cultivating, and less labor in digging, for when the mulch was forked off, most of the potatoes were found on the surface of the soil. My neighbor is of the opinion that for those who have straw available for mulching, this method will be found the most advantageous, especially in a dry season, while in such case the drills might be placed two feet apart instead of three and a half feet, there being no cultivating to be done.

This experiment seems to shew that we get a much larger yield per acre by growing our potatoes in drills than by planting them in hills, and that by covering them after planting with a mulch of straw to the depth of six inches, the labor of cultivation will be saved and that of digging largely diminished, while the yield is not sufficiently less to counterbalance these advantages, where one has the material for mulching conveniently at hand. B.

PERSIAN CYCLAMENS.

Persian Cyclamens are beautiful little plants and exceedingly profuse bloomers between January and March.

PERSIAN CYCLAMENS.

I sow my Cyclamens in a pot or pan of light soil as soon as I can get the seeds, say in February or March, and soon after they germinate prick them off into small pots, then pot them singly into 2¼ inch pots and afterward into 3 inch ones. I endeavor to keep these young plants growing all summer, and in fall several of them may need to be re-potted into 4-inch pots. In winter keep them near the glass, faintly shaded from strong sunshine and moderately moist, most of them will blossom. After they have done blooming say in April, I give them rather less water than before, but do not dry them off thoroughly, and in May, plant them out in an open frame; any piece of garden ground would do as well. I take no further heed of them during the summer months, except keep away weeds.

About the end of July or in August, they will begin to grow; then I lift and pot them, using well-drained pots and rich earth, and place them close together in a cold frame. For some time I water sparingly; but as they advance in growth, more copiously. They are taken indoors before there is danger from frost. These should blossom full in January, February and March.

By raising a few seedlings every year (and every seed should come up without any trouble) you can always have a young, vigorous set of plants. I do not care about keeping Cyclamens over three years old. In potting Cyclamens I like to have the corm rest upon the top of the soil, or, at most, be buried but to half its depth. But when I plant them out in the frames, I place the "roots" about an inch or half an inch beneath the surface. Some growers prefer growing their Cyclamens altogether in pots.—W. FALCONER, *in American Garden.*

THE RED SPIDER.

The red spider is not correctly speaking an insect, though it is commonly spoken of as such, neither is it a spider, as its name would imply, but an acarus or mite. It is a most destructive and and troublesome pest wherever it makes its presence felt; it by no means confines itself to a few kinds of plants, but it is very indiscriminate in its choice of food, and it attacks both plants grown under glass and those in the open air. When these pests are present in large numbers the leaves on which they feed soon present a sickly yellow or scorched appearance, for the supply of sap is drawn off by myriads of these little mites, which congregate on the undersides of the leaves, where they live in a very delicate web, which they spin, and multiply very rapidly; this web and the excrement of the red spider soon choke up the pores of the leaves, which, deprived of their proper amount of sap, and unable to procure the carbon from the atmosphere which they so much need, are soon in a sorry plight. However promiscuous these mites may be in their

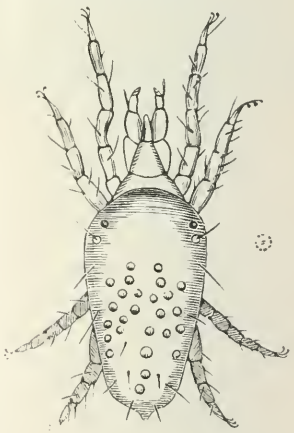
choice of food plants—they are by no means insensible to the difference between dryness and moisture. To the latter they have a most decided objection, and it is only in warm and dry situations that they give much trouble, and it is nearly always in dry seasons that plants, &c., out-of-door suffer from these pests.

Sulphur is one of the most efficient agents known for killing them; but it will not, however, mix properly with water in its ordinary form, but should be treated according to the following recipe: Boil together in four gallons of water, 1 lb. of flowers of sulphur and 2 lbs. of fresh lime, and add 1½ lbs. of soft soap, and, before using, 3 gallons more of water; or mix 4 oz. of sulphate of lime with half that weight of soft soap, and when well mixed add 1 gallon of hot water. Use when cool enough to bear your hand in.

In vineries one of the best ways of destroying these creatures is to paint the hot-water pipes with one part of fresh lime and two parts of flowers of sulphur mixed into a paint. If a flue is painted in this way great care should be taken that the sulphur does not burn, or much damage may be done, as the flues may become much hotter than hot-water pipes. During the earlier stages of growth keep the atmosphere moist and impregnated with ammonia by a layer of fresh stable litter, or by painting the hot-water pipes with guano made into a paint; as long as the air in the house is kept moist there is not much danger of a bad attack.

The red spider lays its eggs among the threads of the web which it weaves over the undersides of the leaves; the eggs are round and white; the young spiders are hatched in about a week, and they very much resemble their parents in general appearance, but they have only three pairs of legs instead of four at first, and they do not acquire the fourth pair until they have changed their skins several times; they are, of course, much smaller in size, but are, however, in proportion just as destructive as the older ones. They obtain the juice of the leaves by eating through the skin with their mandibles, and then thrusting in their probosces or suckers, through which they draw out the juices. The females are very fertile, and breed with great rapidity under favourable circumstances all the year round.

The red spiders, as I have already stated, are not real spiders, but belong to the family Acarina or mites, a family included in the same class (the Arachnida) as the true spiders.



Mite (greatly magnified).

The red spider (*Tetranychus telarius*) is very minute, not measuring more than the sixtieth of an inch in length when full grown; their colour is very variable, some individuals being nearly white, others greenish, or various shades of orange, and red. This variation in colour probably depends somewhat on their age or food—the red ones are generally supposed to be the most mature. The head is furnished with a pair of pointed mandibles, between which is a pointed beak or sucker. The legs are eight in number; the two front pairs project forwards and the other two

backwards; they are covered with long stiff hairs; the extremities of the feet are provided with long bent hairs, which are each terminated by a knob. The legs and feet appear to be only used in drawing out the threads and weaving the web. The thread is secreted by a nipple or spinneret situated near the apex of the body on the underside. The upper surface of the body is sparingly covered with long stiff hairs.—*The Garden.*

BOOK NOTICES.

Descriptive Catalogue of American grape vines, small fruit plants, etc. Geo. S. Josselyn, Fredonia, N. Y.

Illustrated Catalogue of Green's Nursery Company, Rochester, N. Y. for 1884, with hints on fruit culture.

Descriptive Catalogue Spring, 1884, of the Moorton Fruit Garden, Moorton, Delaware. Caleb Boggs, Proprietor.

Industrial News, published by the Inventor's Institute, Cooper Union, New York, in the interest of inventors and the producing classes.

Hints on Landscape Architecture as applied to the Home, Parks, Public Institutions, etc., by A. N. Carpenter; L. A. Gallesburg, Illinois.

Descriptive Catalogue for 1884 of seeds, plants and trees, with coloured plates of Crimson Beauty Raspberry, and Jumbo Strawberry. A. M. Purdy, Palmyra, N. Y.

Descriptive Catalogue of Dunreith Nursery; new pears, quinces, grapes, small fruits, new strawberry, catalpas, etc., etc. E. Y. Teas, Dunreith, Henry Co., Indiana.

Catalogue of live seeds. Fred N. Lang, Baraboo, Wisconsin. Mr. Lang says: "I guarantee the seeds I sell, insomuch that in any case of their failure to germinate under fair conditions, I will return the money paid for them."

Retail Catalogue of Warranted seeds, vegetable and flower, for 1884, grown and sold by James J. H. Gregory, Marblehead, Massachussetts, copiously illustrated. Sent free on application.

Seed Annual 1884, D. M. Ferry & Co., Windsor, Ont. A very neat and handsomely illustrated catalogue of vegetable, tree, farm and flower seeds, with description of their seed farms, trial grounds and packing rooms.

Catalogue, Illustrative and Descriptive of choice Farm, Garden and Flower seeds, selected from my own stocks and those of the most celebrated European growers. Wm. Evans, 89-93 McGill Street, Montreal.

Wilford's Microcosm for March is to hand. It is published monthly by Hall & Co., 23 Park Row, New York, at one dollar a year. The Editor seemingly has no confidence in the wave theory of sound. Wonder what his views are on the motion theory of heat.

Schedule of Prizes offered by the Massachussetts Horticultural Society for the year 1884. Among the prizes offered we notice one of $50 for the best essay on the use and economy of chemical fertilizers on fruits, plants and vegetables, as influencing the growth and quality. The essay to give a detailed account of actual experiments and results during three years. As competition is open to all, perhaps some Canadian can step in and take the prize. Sixty dollars is offered for the best seedling pear originated since 1876, and a like amount for the best seedling apple and for the best seedling hardy grape. Thirty dollars is offered for the best seedling early potato, also for the best late potato, and for the best other seedling vegetable. Any one wishing to compete can obtain a copy of the prize list giving full particulars by applying to the Secretary, Mr. Robert Manning, Boston, Mass.

WHO SETS THE FASHIONS?

Who sets the fashions, I'd like to know,
For the little people beneath the snow?
And are they working a weary while,
To dress themselves in the latest style?

There's Mrs. Primrose, who used to be
The very picture of Modesty;
Plain were her dresses, but now she goes
With cramps and fringes and furbelows.

And even Miss Buttercup puts on airs.
Because the color in vogue she wears;
And as for Dandelion, dear me?
A vainer creature you ne'er will see.

When Mrs. Poppy—that dreadful flirt—
Was younger, she wore but one plain skirt:
But now I notice, with great surprise,
She's several patterns of largest size.

The Fuchsia sisters—those lovely belles!—
Improve their styles as the mode compels;
And though everybody is loud in their praise,
They ne'er depart from their modest ways.

And the Pansy family must have found
Queen Elizabeth's wardrobe under-ground;
For in velvets and satins of every shade,
Throughout the season they're all arrayed.

Pinks and Daisies and all the flowers
Change their fashions, as we change ours;
And those who knew them in olden days
Are mystified by their modern ways.

Who sets the fashions, I'd like to know,
For the little people beneath the snow?
And are they busy a weary while,
Dressing themselves in the latest style

New-York Independent.

Green Peas.—The most productive very early pea on my grounds was Burpee's Extra Early, although it was three days later than Tom Thumb. For the main crop I prefer American Wonder.—*Rural New Yorker.*

Early "Paragon" Rhubarb.—This is a new variety, originated in England, and now introduced here. We grew it last year alongside of the older kinds, and were favourably impressed with its superiority. The stalks are bright red, very heavy, and produced in quick succession and wonderful abundance. It is earlier, of more delicate flavor, and decidedly less acid than any other variety we are acquainted with. But its most remarkable and most valuable qualification is that it does not produce flower stalks, to which fact its great productiveness is mainly attributable, all the strength of the plant being used for the development of its leaves. The habit of the plant is remarkably compact, so that plantations do not require to be renewed every few years, while the clumps nevertheless retain their original position. To judge from the high praise this variety has received in England, as well as from our own experience in growing it, we do not doubt that, when generally known, it will be largely planted in preference to the older kinds.—*American Garden.*

Kerosene to Kill Insects.—Since the illuminating oil obtained from petroleum, known in this country as kerosene, and in England as paraffine oil, came into general use, it has been employed with variable success as an insecticide. That it would destroy insect life was long ago established; that it would also destroy plant life was sometimes demonstrated in a manner more convincing than pleasant. The oil in its concentrated form, can be tolerated by but few plants. The first improvement in its use was to add a very small quantity to a bucket of water, enough to make but a mere film upon the surface; then diffuse it through the water by violent stirring, and apply before the oil and water had time to separate. This answered fairly well, but was troublesome. The next step was to divide the kerosene, not by dissolving it, but by diffusing it in the form of an emulsion. It is well known that oils may be suspended in water by means of gum, sugar, etc., and may be kept thus for some hours or even days. It has been discovered that milk, either fresh or soured, is a convenient medium to unite kerosene and water Mix together kerosene and half as much milk, stirring them thoroughly to form a cream-like mixture. When the two are so completely united that no oil is visible, dilute the mixture with twelve times its bulk of water, adding the water gradually, and stirring thoroughly. This emulsion has been found especially useful in the treatment of the various scale insects, so difficult to destroy by ordinary insecticides, and is used for various other insect pests. For trees use a syringe or force pump, and for house-plants, often injured by scale insects, apply with a sponge or swab.—*American Agriculturist.*

Printed at the Steam Press Establishment of Copp, Clark & Co., Colborne Street, Toronto.

YELLOW EGG PLUM.

PAINTED FOR THE CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

VOL. VII.] MAY, 1884. [No. 5.

THE YELLOW EGG PLUM.

The colored plate which accompanies this number is an excellent representation of a very popular plum. It has been very generally disseminated throughout our Province and has been found to be specially adapted to strong soils that are well drained. In soils that are damp and cold it does not thrive well. Nor does it seem to fruit in sandy, light soils as well as do many other varieties, the plums frequently dropping from the tree in such soils before they are ripe, although not injured by insects.

When well grown the fruit is very large, oval in form, narrowing considerably at both ends; and of a clear yellow color, overspread with a delicate white bloom. The flesh is yellow, adheres firmly to the stone, and when ripe is sweet with a mingling of acid sufficient to make it an excellent cooking plum. It is much in demand for canning purposes, making a desirable, and at the same time an attractive fruit when thus preserved for winter use. It is hardly good enough in quality or fine enough in texture to rank as a dessert plum, but for cooking purposes it has on the whole but few equals.

There is no doubt but that plums can be profitably grown for market, if the cultivator will only give them the requisite attention. The ground in the orchard must be kept well fertilized and free from grass and weeds; and in those parts of the country where the curculio abounds, the process of jarring the trees and catching and killing the insects must be resorted to, in order to secure a crop of fruit. Unless the ground is well cultivated and enriched the leaves will often drop prematurely from the trees, in which case the fruit will not ripen perfectly. It will also be necessary to keep up a sharp look-out for the black-knot, and to become acquainted with its appearance in its incipient stages, so that it may be promptly cut out as soon as discovered and before it has burst the bark of the tree and begun to turn black. By prompt excision and removing the affected parts from the orchard and burning them so as to destroy all germs that could spread the trouble, this enemy to plum culture can be successfully kept in check.

REPORT FOR 1883.

I am very sorry to be compelled to say that the Ontario Government has decided not to bind the report of the Fruit Growers' Association, having been seized with a fit of *economy*. Your President remonstrated with all the earnestness and arguments at his command, but to no avail. We had been advised that Government had decided that all reports of such great practical value should be bound, but we are now shown that governments are not always of the same mind. It is a great dissappointment to us all, but your officers were unable to change the decree. The report is now being mailed to members in paper covers.

D. W. BEADLE,
Secretary.

THE CANADIAN HORTICULTURIST.

OUR PREMIUMS.

Please examine the premium list for subscriptions which you will find on the cover. By a little effort you can secure for yourself a copy of the best book yet written on *Insects Injurious to Fruits*. It will be a handsome ornament to your library and invaluable as a helper in fighting the insect pests that spoil your fruit.

As an expression of appreciation of the services of those ladies who may take a little time to help to increase the number of subscribers, we offer two books especially designed for ladies, filled with just the information often wanted, one of them written by a lady.

The other articles offered are well worth the little effort needed to obtain them.

QUESTION DRAWER.

CURRANT CUTTINGS.

I have a few small bushes of Fay's Prolific red currants. Wishing to get into stock as soon as possible, I cut off the new wood last fall, and buried it in the garden, intending to cut it into single buds and plant out next spring. I fancy they would start as easily as grape-vines often so treated. Would it be best to plant in the hot bed or a sheltered border, and how deep; or would it be safe to plant as cuttings in the usual way? Will you or some of your readers please answer?

Aultsville. JOHN CROIL.

ANSWER.—We have not had any experience in growing currants from single eye cuttings. We should prefer to plant the cuttings in the usual way, believing they would make much stronger plants than from single eyes. —EDITOR.

PEAR RUST.

I have two Flemish beauties which rust every year so bad that they are of no use at all. They turn black, and the leaves turn bronze colour, but don't kill the wood at all. Please answer through *Horticulturist* if any remedy at hand. Yours,

Kingston. W. A. CHESTNUT.

Will some of our readers who have had experience please reply.

QUESTION DRAWER.

1.—How soon may I usually safely uncover my grapes in a cold grapery?

2.—I observe that it is generally recommended that outdoor grapes should be covered with earth. Is earth better than manure, and if so, why? R.

ANS. 1.—As soon as the weather is warm enough to cause the vines to grow.

2.—Manure is apt to harbor mice.

GLORY OF THE SNOW.

The *Chionodoxa Luciliæ*, which is the botanical name of this charming spring flower, is a native of Asia Minor, and is nearly allied to the genus *Scilla*. Its azure blue flowers with pure white centre are produced with the earliest opening of spring while snow lingers yet in many sheltered spots.

For outdoor culture the bulbs should be planted from one to two inches deep,

GLORY OF THE SNOW.

in October, in rather light soil where there is no danger from stagnant water. The bulbs, although hardy, will flower much better if lightly mulched during winter. To produce best effects they should be planted rather close together and left in the ground undisturbed for several years.

They are also well adapted for pot culture in the house, requiring about the same treatment as Crocus.

FLORIDA IN WINTER.

(Continued from page 80.)

The interesting feature of St. Augustine is its antiquity. It was founded by the Spaniards under Menender in 1565, more than half a century before the landing of the pilgrims on Plymouth Rock. Menender! what memories are stirred at the mention of that name. How the blood curdles with horror, even after the lapse of more than three hundred years, at the atrocity which could coldly massacre a shipwrecked enemy that had placed themselves by surrender helplessly at his mercy. Time will never wipe from that name the stain of infamy with which it has been imbued by his cruelty.

The town yet retains the appearance of some ancient Spanish settlement. Many of its streets are narrow, varying from ten to twenty feet in width, and the balconies, projecting from the upper stories, almost meet over the roadway. The style of architecture is very quaint, carrying one back towards the middle ages. The old cathedral, which fronts on the public square, with its quaint, moorish belfry and chime of bells, and sun dial instead of clock, is one of the relics of by-gone days, having been built in 1793. Over the chancel is a painting which represents the first celebration of mass in St. Augustine on the 8th of September, 1565. In the square there yet stands the market building, where in slavery days slaves were sold at auction to the highest bidder. What, if it could speak.

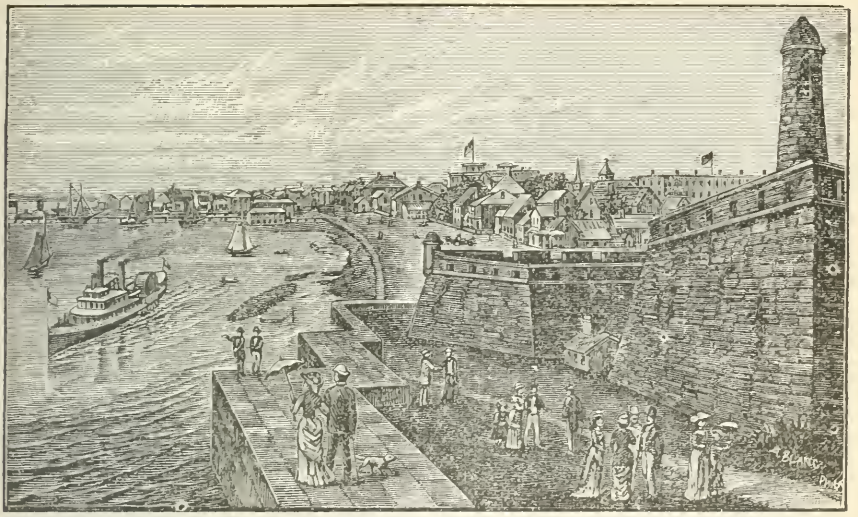
We were shown an old building on St Francis street, by the side of which a date palm tree bent over the street, which was said to be the oldest building in the place. Date palm trees were quite numerous in the town, some of which gave evidence of having borne fruit recently, by the fruit stems yet visible at the top. The accompanying

cut represents a group of date palms, whose long, slender trunks, crowned

Date Palms.

with waving plumes of drooping, feathery foliage, form an interesting object to one quite unaccustomed to the sight of tropical vegetation. Near this old and now almost ruined building, we encountered a yoke of oxen hitched to a cart, which gave us our first and abiding impression of the cattle of Florida. We stood and looked at them with a sense of bewilderment. Where were we? Was yonder water the Nile? Had we been looking at the pyramids? Were these the kine that Pharaoh saw, that had eaten up the fat kine, and still were ill-favored and lean? Doubtless they were; for never, no never, had such a vision of life and death, of moving bones and horns and hoofs ever passed before mortal vision. But future observations dispelled the illusion. We saw many more cattle during our further explorations in Florida that were just the counterpart of these. They were frequently to be met with standing nearly leg deep in the river, feeding upon the weeds that grew at the bottom. Poor brutes. There was no grass upon this sandy soil, hence the river bottom was their only pasture ground.

St. Augustine stands upon a narrow peninsula, with the Matanzas river on the east and the St. Sebastian on the west. Across this peninsula a wall was built by the Spaniards as a defence, through which a gateway gave access to the city. The wall has disappeared, but this city gate yet stands in some measure of preservation, and forms an interesting relic of the past. Of all these relics of an older time the old Fort is the most attractive. It is said to have been more than a hundred and sixty years in building, having been commenced in 1592, only one hundred years after the discovery of America. Its stone walls were laid in the sweat and groans of slaves and prisoners of war. It had its moat and drawbridge, its sentry towers and bastions, and its dungeons too. I crossed the moat and passed within its massive arched entrance; looked into the rooms once occupied by mail-clad tenants, stepped into its donjon keep, and groped my way around its dark, dismal inner prison, where, it is said, were found within the present century human skeletons in cages. I climbed up the stone stairway, that has echoed to the tread of armed men that have been sleeping for centuries, and, walking along by the parapet, climbed the tower at the north-eastern angle, and looked out of the window towards the sea. The old fort is slowly crumbling to decay; it has no place in modern warfare. It



is of the past—the strange, weird, sombre past. One cannot go through its now untenanted rooms, so dark and dismal, and listen to the echoes of his own footfall as they die away among those vaulted arches, without thinking of the time when these rooms rang with the shouts of soldiers in their coarse revels, and these cells echoed back the groans of the suffering and the dying.

The sea wall runs from the fort southward along the front of the city. It is built of stone from the island opposite, known as Anastasia Island, and is covered with a granite coping four feet in width. It is the favourite promenade of visitors, and on moonlit evenings at this season of the year is thronged. At the southern end of this wall are the U. S. barracks, once, in part at least, a Franciscan monastery.

Our cut shows the eastern side of the old fort, San Marco, with the tower at its north-eastern angle, and its irregular, broad sea wall, from which runs the city sea wall for nearly a mile to the southward.

Having taken a survey of this curious old city, your explorers drove out to one of the commercial gardens. We entered by an avenue of palmetto, interspersed with date palms and bordered with junipers. Here we found our ever-blooming roses, such as Solfaterre, Niphetos, Marechal Niel, &c., which we are compelled to house so carefully at the approach of winter, growing in the open ground all the year through. They were well filled with flowers, but lacked the luxuriance of foliage and growth we are accustomed to see. But at this we did not wonder; the wonder was that they should grow at all in this pure sand. We found growing here large numbers of amaryllis, and concluded that the market for this plant must be remarkably good. Here, too, was the finest avenue of oleanders that one can imagine. We did not learn their age, but they rose to the height of ten or twelve feet on either hand. In a few more days the flowers just coming into bloom will be open, and then this avenue of oleanders will be a sight to see. Our inspection of the vegetable department was but passing; the plants had

a poor, starved look, at which, as we looked at the soil, we did not wonder.

Of the business done here there is but little to be said. We were told there was no business in summer; in winter the business was to entertain strangers. To-morrow we return to Tocoi, and take the steamboat for a further trip up the St. John's River.

KEEPING APPLES.

Mr. Editor,—I send you to-day four specimens of Greenings, two of which were kept in the ordinary way in closed barrels. You will notice how badly they are discoloured. One might almost imagine they had been designedly bruised all over. The other two bright fresh-looking ones were kept in what are known as the "Cochrane Cases." Had our cellar been sufficiently cool they would have been firmer than they now are.

These cases are made of slats of wood nailed together in box form, being about 21 inches square on the top and 12 inches high. They are made of slats placed about half an inch apart, so as to allow the free admission of air to the inside. Their interior is filled with pasteboard compartments arranged in a manner similar to an ordinary egg case, with the exception that each section has a small notch cut out of each side, thus enabling the air to have free access to every part of the case. These small compartments are made of various sizes to suit any sized fruit that it may be required to pack in them, and as each specimen of fruit occupies a separate paper compartment they do not touch each other.

Consequently, should any one of the specimens packed chance by any means to decay, it will not spread the contagion to any other portion of the case. Should any of your readers desire to prolong the keeping season of any particular variety of fruit, I know of no way so calculated to assist him as the use of these "Cochrane Cases." I this year experimented with them in endeavouring to keep the Large Red Wethersfield Onion, but, owing to our cellar being a little too warm, it was not a complete success; yet still it was by no means a failure. I purpose, however, making a more careful test next season, which I trust will meet with gratifying results. I shall report in due course as to my success or failure. It is perhaps pertinent to add that the principal drawback to the employment of these cases to a very large extent is their cost, seventy-five cents being the price asked for each in Montreal. It must, however, be remembered that with careful management they will last for several years, so that in the end they will not prove so expensive as one might at first imagine.

A. A. Wright.

Renfrew, April 3rd, 1884.

EARLY-RISING SAP.

To the Editor of The Canadian Horticulturist:

Sir,—In the March number your Muskoka correspondent, T. A. H., says that a friend of his is of the opinion "that it is not altogether the hard winter's frost that damages the fruit trees here in the north so much, as that the ground here seldom freezes hard on account of the heavy snows, causing the sap to start too early and thereby get a severe check."

To his friend's opinion I can add a friend's observation. On a village lot, undrained, and of heavy clay, this friend has had very fair success in growing apple trees. He mulches heavily, and to this, in talking to him last summer, I attributed his success. "Yes," said he, "and I believe that the mulching has an effect which I have never

seen mentioned in the journals. I think it prevents the ground thawing out too rapidly in the spring, and consequently the sap does not rise too early."

This not only corroberates T. A. H.'s idea, but suggests a remedy.

Renfrew, March 24, 1884. W. E. S.

MANN AND ONTARIO APPLES, &c.

Mr. Editor,—Our facetious friend Croil, with his rusty pen, pretends to take umbrage at the article you endorsed in February number of *Horticulturist.* I wish I could write with a new pen as well. As fruit is our hobby I will try to say a little on this subject as it is your wish that the members should add their mite. Three years ago this spring I grafted a few scions of the Mann apple on a bearing tree. I have had a good crop of them for two years. It seems to be a very early bearer. The fruit is of fine flavor; of large size, and a good keeper of the most perfect shape. I think this variety to be a very valuable fruit. It is an apple of which we see very little, comparatively new in this section at least. Now for my report of plants received. Since I last wrote the Ontario apple has fruited. The year before last the fruit was of good size, but it seemed to have a fault of falling from the tree with the wind before ripe, although not in an exposed situation, so that I had not a single good specimen. Last year it did not fruit, but the tree is a good grower and a fine tree. The Saunders raspberry, No. 50, I think, a purple berry, I find to be a great cropper, but as for the quality I cannot say much in its favor; it is tart and soft, but the quantity makes up for quality. Moore's early grape has done pretty well. I can't say much at present of the Worden, as I only got it last fall.

Yours truly,

Walter Hick.

APPLE TREES—McINTOSH RED.

Mr. Editor.—I now pen you a few things respecting fruit growing. I have had a small nursery for fifty years or more, and gave much thought on fruit growing, and the cause why so many trees failed, &c. One year ago I sent you a few reasons why so many fruit trees failed, which I will not speak of now. It is asked, what is the disease, or cause, why on so many fruit trees, the bark dries to the wood on the trunk, and in some cases the bark dries around the tree in one summer.

THE CAUSE.

In some way the tree has got a clip, and the sap and soft wood under the bark is bruised, is killed if the bruised sap does not dry out in one day or so; the bruised sap with the heat of the sun will sour or ferment, then it acts like a leaven, it will sour the live sap next to it. If the sour sap is not dried up with the heat of the air it will continue to sour the live sap next to it, until it encircles the whole tree.

NOW THE REMEDY.

When you see on the trunk of your tree a dark or dried spot in the bark, take your knife and cut between the dead bark and the green, one-eighth of an inch wide, which will prevent the sour or dead sap coming in contact with the live sap or wood, that will stop its travel. Again, there is a limb blight, in some cases, a limb by the changeable winter, nearly all the sap freezes out of it, the wood turns black or dark, the sap nearly killed, it grows through May, the heat of the June sun sours the almost frozen to death sap, and the result is, the limb withers and dies; it acts on the limb the same as it does on the trunk of the tree with the bruised or dead sap.

Cut off the limb up to the live bark and then the dead sap can do no more harm.

How is it, I see in your Magazine, where some name over the trees they call "hardy," few there are that bring in the list, the McIntosh Red; are they not known in western Ontario. If they are not they should. I am the owner of the original McIntosh Red tree, and farm, given me by my father 48 years ago. The tree is now over 80 years old. I have lived 70 years by it within 40 feet of it. It is still doing well. I have grafted from it more than 50 years ago into other fruit trees, they show themselves vigorous growers yet, and bear equally as good fruit as the old mother tree. I have an orchard of 1300 trees, budded from the old tree. I here state fearless of successful contradiction, that the McIntosh Red, in eastern Ontario, eclipse all other fruit trees for hardiness and longevity, they are a winter apple, and none to equal them in the market. Thereby they cannot be known in western Ontario. They should be known for the benefit of fruit growers. Every fruit grower should go largely into them.

Yours fraternally,

Dundela. ALLAN McINTOSH.

NOTE BY THE EDITOR.—McIntosh Red is known in western Ontario, but the fruit is so very subject to the black scab, that it can not be profitably grown at present. Perhaps our committee of investigation will find a remedy.

VALUABLE SEEDLING APPLES.

MR. EDITOR.—I am pleased to see that the *Canadian Horticulturist* bids fair to become a success and a boon to the fruit growers of British North America. The fact of the introduction of the Russian fruits into Manitoba and other northern sections will surely add a stimulus to those who locate in such places, to become subscribers to the *Canadian Horticulturist* at once, for in its pages will be found the best possible information for all new comers and for those particularly who are enthusiasts in growing fruits and flowers. The emigrant should be posted in what variety of the different fruits, both large and small, will be best adapted to his immediate locality, with the name of each variety; this the *Horticulturist* will give him from time to time. Many correspondents who contribute to its pages are practical men, who have spent nearly a life time in fruit growing and now posess a capacity to give valuable facts on these subjects. The look out is now very favorable, the art of Hybridization is being taken up in good earnest, and is so nicely manipulated as to insure hardiness, productiveness, and improved quality in the offspring—the benefits will be very great indeed—and such a thing is now quite feasible.

There is another source from which we may obtain valuable apples for the north—I mean the old orchards of Ontario, many of which were planted nearly a century ago, raised from seed planted in the garden and after growing two or three years, taken up to form orchards. There were no nurseries here then, where grafted trees could be procured, consequently, the old orchards are all seedlings, and in their numbers some first class apples may be found, unlike any now grown in our nurseries, and should any worthy of cultivation be discovered, their cultivation could be commenced at once, as their adaptability to climate cannot be questioned. In conclusion, I will give my opinion on the apples of the Pioneer orchards of Ontario, many trees of which are now to be found of robust size, healthy, strong and exceedingly productive and on an average three or four trees in an orchard may be of great value to some part of our wide spread country. My reason for thinking so is this - apple trees which have passed through so

many summers' heat and winters' cold and still continue vigorous and bear annually large crops of good fruit should be looked after. Mr. Editor I suggest that a place be given in our prize lists for the best seedling apples of our old orchards both for autumn and winter varieties— this may have tendency to bring out something really good.

Most respectfully yours,
WM. H. READ.
"Elm Wood," Port Dalhousie, Ont.

TRAP TO CATCH THE CODLIN MOTH.

SIR, —In the year 1879 I procured an oil barrel for house use, and to cure it from taste and smell of the oil the idea struck me that the best method to carry that idea out would be to keep it filled every day with whey until the following morning, then to feed to the pigs, then refill and leave until the following morning, &c. I filled to about two inches of the brim for the whole six months, commencing about 1st May, and caught every kind of moths on the balmy and calm nights, not taking thought that I was destroying the apple moths, but thought I was seasoning my barrel, which I did all right, and destroyed the moths as well, and freed the apples from worms at the same time, which had grown very bad, there being hardly an apple but had a worm in it. In the year 1881 I had no whey; result in 1882 some worms. Then I understood that the whey was the trap that caught the moths and freed my orchard from worms. I have set the whey trap ever since, and have never seen a worm in an apple. Set your traps in the orchard about two feet or so high. The odour of the whey must be seen to, and the trap or dish filled to within two inches of the brim.

Now, sir, I do not claim any merit; it happened purely accidental so far as catching the apple moth is concerned. Any person acquainted with the apple orchard knows what a peculiar perfume or odour there arises from the blossoms, and how the moths flutter among the trees and branches at that time on balmy evenings; so I think the odour of the whey attracts them, and they light on the whey in the dish and are caught. In closing, I would ask all persons using whey for pigs' feed to try it, and report results to the *Horticulturist* If they will persist in using it right along they will catch their neighbours' moths as well, if close to them. Please publish this in your May number for the use of all those who use whey for pigs or calves, and who wish apples clear of worms.

Yours truly,
JOHN MCINTYRE,
Reeve, Tp. Ekford.
Appin, Ont., March 31, 1884.

THE BARK-LOUSE.

MR. EDITOR,—We take a great number of papers, and this year I did think of stopping some of them, but I could not help sending the dollar for the *Canadian Horticulturist*. We get a great deal more than the worth of our money, for I like the *Canadian Horticulturist* very much. You may send us the flower seeds. I would have liked the C. Baldwin, but my apple trees are getting so bad with the bark-louse that I am getting almost disheartened. I wash, then scrape, then put soft soap, lye, and everything I can think of on the trees, but they have got out to the ends of the limbs, where I can neither wash nor scrape them. They have killed all our black currant bushes, and have got on to some Mountain Ash trees I have got, and also some wild plum stocks I had for grafting on to. I have cut down some Early Harvest trees altogether; after the louse gets to the end of the limbs they commence to die. Plumbs

have done well with us till last year, when there came a blight on them about the middle of summer and killed some altogether. Still the light-coloured plumb was not so badly affected ; but the frost came and killed them just as they were about ready to pull. The Lombard and Duane's Purple suffered most by the blight.

DAVID SAUNDERS.

Kemble, Ont.

BLISS' AMERICAN WONDER PEA.

I sowed 1¼ bush. of these peas last spring. The crop was not large, but under the circumstances encouraging. I planted with a hand sower. The machine, or perhaps rather its manager, didn't work well. In spots they came up too thick, in others too thin, and planted in drills two feet apart covered nearly an acre of ground. Probably off one half the quantity of ground at one foot apart I would have had better peas and more of them.

Owing to the unusually wet season they were badly damaged in harvesting ; many of them sprouted, more of them so much blackened as to be unsaleable. I sold 10 bushels for $50, the seedsman pronouncing them to be a first-rate sample. This appears to be the best dwarf pea in the market, and is likely to take the lead for a long time. Arnold's $1,000 a bushel pea may be better, but we have yet to know it.

ONIONS.

I had a strip on a piece of ground 30 x 150 feet, sowed thinly, in rows two feet apart. These, too, would have yielded the double if sowed at half the distance. I had 23 bushels, all large, upwards of 200 bush. per acre. Kind, large Red Wethersfield. The land was not rich, but manured with wash from the barn-yard.

JOHN CROIL.

Aultsville.

LADY WASHINGTON APPLE.

To all fruit men, and whoever it may be, I intend to make known in the way of an apology that the apple which is getting familiar, in the United States as well as in Canada, under the name of Hoover's Favorite, has no just claim to the name. Its original name is Lady Washington, which will be found recorded in the report of the Fruit Growers' Association of Ontario for 1879, page 58. I am now informed from an old fruitman from New York State that there is already two or three kinds of Hoover apples described ; I suppose not only described, but perhaps offered for sale. Perhaps it would do some service against fraud by describing the habit of the tree, and also the fruit. My trees are all top-grafted. They don't grow a very neat head ; rather crooked limbs, stubby when old, fairer-looking when young bark soft and yellowish. The fruit generally is of a good size, varying much in colour—some nearly white, others turning to yellow, others again having a fine rosy blush on one side ; juicy, white flesh ; slightly acid, fine flavour ; first-class winter fruit. This is a short sketch of my favorite apple. Note, I never really intended to name it after myself, but by my showing these lovely apples to friends and strangers, I did always say that this kind is my favorite apple, and then from other people from time to time the present name of Hoover's Favorite (or the Hoover's) was altogether applied, without any regard of its old name of Lady Washington, which I generally gave as its original name, and which has been known for years gone, and the word favorite will only be used by me and whoever chooses it as a fancy name. Will you kindly find space in your valuable monthly to in-

sert the foregoing apology and sketches, to stop confusion in wrong names.

D. B. Hoover.

Almira, Ont., April 1st, 1884.

ON GRAPE CULTURE.

My plan is to have the rows nine feet apart, the vines five feet apart in the row. Take two stakes, or posts, bore 1½ inch hole for a leg, a little slanting, so as to cause the post to lean when the leg is in the post, with three poles to be nailed on the posts for the vines to climb on, but the leg to be loose, so that it can be pulled out of the post easily. Lay the two posts with the foot end in line with the vines, or row; lay on the three poles at regular distances apart, and spike them to the posts. This do the whole length of the row. Then one take hold of the top pole in the centre and lift it head high, and another stick in the two legs and let it stand. This do the whole length of the row. The vines tied to the poles, they will soon tie themselves. In November cut all off above the top pole, and, if needed, thin or cut off the vines on the poles when they become thick. The hardy vines put in rows by themselves. When trimmed, do as directed. Two must be employed, as directed above; one take hold of the top pole and lift it, the other pull out the legs of the posts and let the posts and the vines to the ground. This do the whole length of the row. In this way two men can put up or take down one acre in a day. The hardy grapes need no more covering than the snow. The tender vines when put down as directed above need to be covered with pea-straw, or its substitute. From long experience I consider it pays to cover all kinds to ensure a good crop. The straw can in the spring be put by the vines to manure them. In Eastern Ontario only the Concord and the hardy grapes pay the grower.

Allan McIntosh.

Dundela.

FRUIT GROWING IN THE NORTH.

GRAPES.

Mr. Editor,—My experience with grapes, like that with apples, only runs back a very few years; and yet in that short time I have formed some very decided opinions. I am satisfied that as grown in this part of the country the Clinton and the Champion are not fit to eat, and that any hybrid with a foreigner for one of its parents will not pay to plant. Sour grapes, such as those named, are not suitable for the north, because the less sun our vines get the less sugar the fruit will contain. This is unfortunate for us, as the Champion is the only grape that is quite sure of ripening.

I have been agreeably surprised to find that vines flourish as well as they do on my grounds. I attribute this to the perfect natural drainage, and the existence of considerable limestone in the soil; in fact, my success with plums and grapes has been much more encouraging than has my experience with apples. A heavier soil would, I believe, grow more wood, but I find the sandy and gravelly loams conducive to fruitfulness; and the readiness with which my layered vines take root, and the disposition the young layers evince to bear fruit the first year—I actually had one layer that bore nine small bunches the year it was planted—shows that the elements necessary for a healthy growth are present in the soil. And here let me say that I wish your correspondents, when relating their successes or failures, would state the conditions as to soil, drainage, etc., under which such results are achieved, so that we might begin to learn what

surroundings are most desirable for particular kinds, as well as particular varieties, of fruits.

In grapes, I have the Delaware, Concord, Clinton, several of Rogers' Hybrids, Burnet, Brant, Martha, Rebecca, Prentiss, Vergennes and Worden. The three latter have only been one year planted, so can say nothing about them from personal knowledge. Martha and Rebecca have fruited, but the two last seasons were so unfavourable for ripening that no judgment can be formed. Burnet fruited for the first time, and set more fruit and better bunches than I have seen it do elsewhere, but did not ripen; I class it along with Rogers' Hybrids, as not being worth cultivating for profit; they set such poor loose bunches that the berries are not near enough together to keep each other warm, and so few of them that they will not pay for the ground they occupy; and if any leaf blight, or disease of any kind, makes its appearance in my vineyard, it is sure to be these half-bred foreigners that are affected. I have seen the Burnet set one, two or three perfect berries on a bunch, and the rest nubbins; and this is the case every year on the grounds of a gentleman in this town; it arises, I believe, from imperfect fertilization, and where it has set more perfect bunches, as it did with me, it may have arisen from the proximity of other vines flowering at the same time that supplied the necessary pollen. The fruit of Rogers' 9 and 15 and Burnet is so good that I should be sorry to destroy the vines, but I must see better results than I have done before planting in quantity. The earliest vine I have is the Brant—I have none of the Champion—I was induced to plant them by the emphatic recommendation it received from a Mr. L. C. Whiting, of Michigan (see Report of Ontario F. G. A. for 1878, page 44), comparing it with the Delaware. He says: "The Brant is a better grape; it is two weeks earlier, less subject to rot, will keep well three to four months, has more healthy foliage, stronger roots, and will succeed with half the care of the Delaware." If he had omitted what he said about its being a *better* grape, the rest might all be true; it is with me the most rampant grower I have ever seen. But to complete the picture he should have added: "It is not fit to eat till it has been frozen, and would not be eaten then by those who could get anything else, always providing that the "anything else" is neither the Champion or the Clinton. It might make good wine; I see nothing to prevent its being better than the Clinton for that purpose—though the Clinton is considered a wine grape—for with me it is more palatable for eating, more productive, has larger berries and larger bunches.

I have more Delaware and Concord vines than all the rest put together, and my experience is that for profit the Delaware is head and shoulders above them all. I had been led to expect that nothing would beat the Concord for productiveness, and that if it brought two or three cents per pound less in the market it would still pay the best; but this is not my experience. My vines have none of them been planted more than four years, but the Delaware shows more foliage, fill up their trellises better, and have produced double the amount of fruit, vine for vine, as compared with the Concords, planted at the same time, and the fruit brings a better price. They are nearly or quite equal in flavour to the best of Rogers', and though they do not colour any earlier than the Concord, they are certainly the first that are fit to eat; at the same time for hardiness and healthiness there is nothing to beat them: and for

bearing fruit, after a winter's exposure on the trellises, I doubt if they have an equal.

THE VERGENNES.

I have been led by claims of extraordinary merit to entertain great expectations for the Vergennes, though, had these claims not been endorsed by a disinterested party, I should have considered that they arose in a great measure with the gentleman who wrote out the advertisement, and it is quite certain that he who undertook that task for the Vergennes is well up to his business. He claims that it is hardy and wonderfully productive, a better grower than the Concord, as early as the Hartford Prolific, keeps all winter, and can be dried into a raisin, bunch and berries are large and hold firmly to the stem, the flavour delicious, colour light amber, free from mildew, and the seeds few and small. Now, can your readers think of any good quality that a grape vine might be expected to have, or that they could wish it to possess, that is not enumerated in the above; or can they find any man who has spent money in trying high-priced and highly-praised vines, who will believe that any one vine can truly claim much more than half of those merits? I would suggest to Mr. Perry, the author of the above description, that if he wishes to add another attraction to the above long list, that he should endeavor to produce a grape that is free from seeds; but what was my surprise some ten or twelve months ago to find the Editor of the *Rural New Yorker*, saying he believed the Vergennes to be all that was claimed for it; that gentleman is, I believe, a reliable authority, and his recommendation induced me to order at once a couple of vines; and notwithstanding my enthusiasm has been a little checked by his having in a late number of that journal, so far modified his opinion as to express a doubt with respect to its claim for earliness, it has not prevented me sending an order a few weeks ago for half a dozen more, for it is clear that should it prove no earlier than the Concord, it must, if its other claims are well founded, establish its title to be called: "The grape for the million."

PRODUCTIVENESS.

I would like to know if any of your readers ever saw a fruit tree or vine of any kind advertised for sale that was not said to be productive; some are very productive, some wonderfully productive, some immensely productive, and some are inclined to overbear. I sometimes think this word productive is used in a double sense, and gives "the word of promise to our ear, and breaks it to our hope." I might say that my Black Currant bushes are productive; and so they are, whatever produces fruit is in one sense productive; and they produce Black Currants; but then there are so few of them that they don't pay for picking. I prefer the overbearing kind, it is so much more satisfactory to pull off a little of the superabundant crop than to be cultivating a splendid array of empty branches; besides, the best fruit can be retained in the thinning out, whereas if the crop is too thin, whatever presents itself must be allowed to grow; for this reason I am partial to the Duchess, Wealthy and Wagner apples, the Lombard plum and the Delaware, and I hope to be able to add the Prentiss and Vergennes grapes.

EARLINESS.

Well then as to earliness; how common it is to see "ripens with the Concord" or "about with the Concord," and so they may, and still be very late grapes; one writer says, "about with the Concord," means two weeks later; but look at the "double sense" again; the last of the Champions might be ripening with the first of the Concords,

and the first of the latest grapes that can be named might be ripening—where they will ripen—with the last of the Concords; so I always look for something more decisive than "with" or "about with."

EXPERIENCE AND PROSPECTS IN THE COUNTY OF SIMCOE.

The last two years have been a sad experience for grape growers in this locality; but our discouragement is lessened by knowing that we are not alone in misfortune; the last season was particularly unfortunate; the frost of the 9th of Sept. having been so destructive that a great many growers had not an uninjured bunch left; and still more of them did not taste a ripe grape of their own raising. I and a few others were not quite so unfortu nate; my ground is not so subject to frost as most of the farms in this neighbourhood, in fact I believe that the County of Simcoe—this part of it at all events—enjoys a climate less severe than a large portion of the Midland Counties, occupying the height of land between Lake Ontario and the Georgian Bay, say for instance, the County of Dufferin and a large portion of North Wellington; in proof of which, it is a fact, that the crops in these counties were very considerably injured by frost last fall, while no injury whatever was suffered in this section.

The grapes that ripened best with me were Brant, Delaware, Rogers' 15, and Concord, and of these I actually sold a few dollars worth, though I cannot say that they were perfectly ripe, and am trying to make wine of about fifty pounds that were only half ripe, still I am not discouraged, I take some comfort from the fact as reported in the *Globe* that the mean temperature of the year 1883 was 2½ deg. below the average, and those who have given any study to Meteorological subjects know what that means, it means that the temperature of Toronto was one deg. below the average of Barrie, and that Barrie had to endure for that year the average climate of Parry Sound. I have lived here five years, and three out of the five, had not the slightest difficulty in ripening every bunch. I sold grapes in 1879 on 15th Sep., and in 1880 on the 14th; these were from vines on a rented place, and it was there I had my experience in leaving vines exposed all winter on trellises; but suppose the crop should be destroyed by frost occasionally, are we then to give up grape growing altogether? And how much worse are grapes in this respect than other fruits? The Borer and Bark Lice destroy our apple trees, and the Codlin Moth spoils the fruit; Blight attacks the pear trees, and the Curculio takes the plums. Might we not just as well lose our crop of grapes once in four or five years as have half our plums and apples spoiled every year?

Yours, etc.,

A. Hood.

"CAN" YOUR RHUBARB IN JUNE OR JULY.

All fruit seems to be best appreciated when it can be obtained a little earlier than its usual season. At this time of the year, when apples have become scarce, all families having a garden (and that family who has not is to be pitied) look forward with much interest and speculation to the time when the rhubarb plant shall be ready for the table. All palates are delighted with its delicious acidity when properly tempered with sugar, and it is, therefore, much prized at a season when no other fruit or vegetable may be had. The season when it is so much appreciated is however comparatively short. A few weeks, and other things take its place, then the rhubarb is neglected and heaps of it is allowed to go to waste in most

gardens. It may not be desirable to lengthen its season, but there is no reason why we should not commence its use a month or two earlier. At the latter end of the season when it becomes so plentiful that it cannot be sold at any price is the right time when every family should put up a few dozen bottles for early spring use. No other fruit can be "canned" easier or with less expense in sugar, and no other fruit is better relished during the months of March and April, than the despised rhubarb of the preceding June or July.

T. B

Lindsay, April, 1884.

ROCK-WORK AND FERNS.

(For the Canadian Horticulturist.)

I am glad that Mr. Allan has brought the subject of ferns before the readers of the *Horticulturist*. No more beautiful plants for a shady place in a garden or shrubbery can be cultivated with so little trouble than our native ferns, and none will give greater satisfaction and pleasure to the man of taste who has an eye to the graceful and beautiful.

I heartily indorse all that Mr. Allan has said in their praise. Some unsightly places in pleasure grounds might be utilized in the manner he speaks of, and become a thing of beauty. I like the idea of *throwing* the stones when building a rockery. Some carefully built rockeries look stiff and unpleasant to the eye, but, indeed, rock-work is one of the most difficult things to construct tastefully.

I send you a list of ferns suitable for either a high or low rockery, which ought to be built of limestone if got convenient, as a large portion of ferns are found growing on the *debris* of limestone rock; that seems to be their *habitat*. Of course, some varieties, such as Osmunda, Onoclea, Struthiopteris, etc., luxuriate in moist land and swamps, but botanists are in their glory when they get a field day at the base of limestone rocks where a large amount of *debris* has been detached from the rock and well shaded with trees. Soil is an important matter in constructing a rockery for ferns, it ought to be well rotted turf and vegetable mould from the woods.

Aspidium—filix mas (very rare; male fern)
acrostichoides
goldianum
marginate
Asplenium—filix fœmina
angustifolium
trichomanes
viride
Scolopendrium (Hart's tongue) lonchitis
Adiantum pedatum (maiden hair)
Polypodium vulgare
Camptosorus rhizophyllus (walking fern)
Pteris aquilina (common brake)
Osmunda regalis
Onoclea sensibilis
Struthiopteris (ostrich fern)

William Roy.

CURCULIO AND PARIS GREEN.

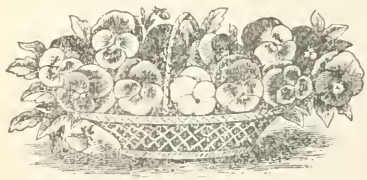
Mr. Editor,—I was recently conversing with Mr. Biggar, of Winona, about his experiments in spraying his orchard with Paris-green. He told me that while he was unable to form any opinion concerning the benefits or otherwise of the Paris-green upon his apple trees, owing to the failure of the apple crop last season, he had reason to believe that the application upon plum trees had a very beneficial effect upon the curculio. When his men were spraying the apple trees, they finished off by giving a showering to one plum tree which stood next to the apple trees. This plum tree is one of a row of plum trees forming a continuous row with the apple trees; and this tree alone of all the plum trees brought any fruit to perfection. From this tree he gathered four baskets of plums, but the fruit all fell off from the remaining trees. The variety is the General Hand, but other

trees of the same variety lost their fruit. The plums were about the size of peas when the Paris-green was applied. He used three ounces of Paris-green mixed with forty gallons of water, and sprayed the trees with one of Field's orchard force pumps, which he found to be an excellent instrument for the purpose. If any other readers of your valuable magazine have any experience in the spraying of fruit trees, will they not have the kindness to communicate it to their fellow fruit growers through the columns of the *Canadian Horticulturist.*

C.

THE CULTURE OF PANSIES.

The pansy yearly grows in favour with amateur as well as professional gardeners, and no garden or lawn can afford to be without it. The florists of England, Belgium, France, and our own States, vie with each other in produce-



A Basket of Pansies.

ing larger and more delicately tinted or marked varieties. The standard shape of the flower should be nearly or quite a circle, and the size should equal a silver dollar. Pansies are easily grown from seed, and if they are planted early in the season, in boxes, placed in a hot-bed, they will be large enough to make a beautiful edging or bordering for beds of geraniums, roses or petunias. The seeds should be sown in sandy soil, mixed with an equal portion of very rich compost, and when the plants have five or six leaves, transplant them into the beds or borders where they are to bloom, placing the plants four or five inches apart.

Very large flowers can only be obtained by the most liberal use of fertilizers. The pansy is a gross feeder, and will not grow to perfection if its needs are not consulted. The beds should be prepared as richly as for asparagus or celery, and when they begin to flower give them a plentiful showering every night, when rain has not fallen. Hot, dry weather will prevent their making a fine display, if the beds are not well moistened and shaded from the noon-day sun. In the hottest weather, water the beds both morning and evening. When the young plants have begun to flower, a weekly watering with liquid stimulants will be found very beneficial, and if yard manure is not at hand, soluble Pacific guano will make an excellent substitute. Dissolve two tablespoonsful of the guano in a gallon of warm water, and pour it freely about the roots, but not upon the leaves. I find it the best stimulant for all my flower beds. When the blossoms appear, if they are small and inferior in color and shadings, pull the plants up at once, and do not let them remain in the bed to spoil its effect. As the seedlings were planted closely, their absence will not be noticed. If, however, all have fine flowers, and are too crowded, transplant some of them into another richly prepared bed or border, in a damp and cloudy day, towards night. They will not wilt if taken up between seven and eight o'clock, after they have been thoroughly watered. They should be shaded for a day or two.

Pansies can be quickly raised from cuttings of the fresh young shoots which spring from their roots, by planting them in sandy soil in the shade. They will make fine plants for autumn flowering, as young plants always bloom the finest. If all straggling branches and seed pods are removed from the plants raised for early spring flowering, they will also bloom luxuriantly in the

autumn. With a pair of shears, cut off the first growth by the last of June, and do not let any pods mature excepting those especially desired for seed. It ruins pansies to let them seed plentifully in September and October. Those who gather these flowers with lavish hands for themselves and their friends, always succeed best in their culture, for their plants will constantly send forth fresh buds and flowers. There are no flowers more beautiful for parlor decoration, for the dinner table and for bouquets than pansies. Their odors are not overpowering, and yet are delicious. A basket filled with pansies is a pleasing gift to every one.—S. O. J. in *Country Gentleman.*

MULCHING POTATOES.

Mr. Editor,—Noticing in the April number an account of some experiments with potatoes, one of which was the application of a mulch or covering of straw, instead of cultivating the ground in the ordinary manner, it occurs to me that your readers may be interested in a short article on the subject which I send you, clipped from the *Farmer and Fruit Grower.* It is written by a resident of the State of Illinois. He says :—

It might be of some interest to give the mode of mulching practiced for the past twenty years in this and adjoining counties: and here at the outset let me say that for early potatoes it is best not to mulch (or straw them, as we say), for the reason that the straw keeps the ground cold and damp, and that is a hindrance to early maturity of the potato, as early in the season the ground is cool and moist, but for potatoes planted later, mulch is required or is beneficial.

It often occurs here on the flat lands in this part of the State that we are kept back from planting potatoes (by wet weather) until what would be late in the season, say well up in April. Then is mulching profitable, as the heat is becoming greater and we mulch to keep the ground cool. As to planting, prepare the ground in the best order by plowing deep and manuring. The ground should be laid off to drain ; that is, the rows should run up and down the ridge so as to carry off the surplus water, as no water should be allowed to stand on the ground.

To lay off the rows, use a large shovel plow, making the furrows four inches deep. The plow should be run deeper than that for part of the dirt will fall in after the plow, so have the opening four inches deep and furrows two feet apart or closer if possible. Plant the seed 15 inches apart in the row, then throw two furrows on them, forming a ridge over them. If properly done, there will be no middle furrow left between the ridges.

After they have lain about one week, take a stout pole twelve feet long, hitch a horse to the middle of it, and drag it over the rows like a harrow, letting the horse walk between the rows. This will flatten the ridges some, and destroy all young weeds starting. Now they are ready for the straw or mulch, which should be spread all over the ground from 6 to 10 inches deep. Dry straw is the best, but if it is wet it should not be put on so deeply, as it lies solid. You need not be afraid of the young plants not coming through, as every plant that starts will make its way through. Some defer putting on the straw until the plants begin to show, but I think it is much better to put the straw on before plants come through the ground, as then they come right on.

If enough straw has been put on, no weeds will trouble you through the season. Then there is nothing more to do but wait for the harvest It is more laborious to plant an acre this way than the old way, but it is far surer, and a much larger yield is obtained—nearly double—and when the tubers have ripened they do not take the second growth, but may lay till late in the fall, until there is danger of a freeze. Indeed, we often have seen them keep under the straw this way till spring.

When the crop is to be taken up, the straw must be forked off to one side. We usually take up the potatoes with a four-pronged fork, and they come out nice and clean.

A word about the straw. It is in the very best condition now for covering

strawberries. No weed seeds to grow, and usually it is half rotten and just the best mulch that can be found. J. B. M.

Marissa, Ill.

DEUTZIA CRENATA.

As the Fruit Growers' Association offers to the readers of the *Canadian Horticulturist* a plant of the double flowering Deutzia crenata, we clip from the *Garden* the following remarks and likewise give a cut of a small branch when in flower. Of this there appears to be two distinct varieties, in one of which the bark of the young shoots is reddish and the flowers on the outside

Branch of Deutzia Crenata.

suffused with rose; in the other the young shoots are green and the flowers almost, if not quite, white. They are both beautiful shrubs, although, in my opinion, the palm must be awarded to the pink-tinged one. The flowers are valuable in a cut state, as they last for some time in water, and are borne in large showy spikes. I counted nearly forty flowers on a spike, and each bloom consisted of about thirty petals; some idea may therefore be formed of the beauty of my plant—a young thriving specimen. The single form is a pretty shrub, but the blossoms are shed much quicker than those of the double kind. It is the variety which has the pink-tinged flowers which will be given to our readers.

HUSSMAN ON SUMMER PRUNING THE GRAPE VINE.

Without proper and judicious Summer pruning, it is impossible to prune judiciously in the fall. If you have allowed six or eight canes to grow in summer where you need but two or three, none of them will be fit to bear a full crop, nor be properly developed. We prune longer in fall than the majority of our vinters, which gives a double advantage: should the frost of winter have injured or killed any of the first buds, we still have enough left; and should this not be the case, we still have our choice to rub off all imperfect shoots; to reduce the number of branches at the first pinching, and thus retain only strong canes for next year's fruiting, and have only large, well-developed bunches.

But to secure these advantages, we have certain rules which we follow strictly. We are glad to see that the attention of the grape-growers of the country is thoroughly aroused to the importance of this subject, and that the old practice of cutting and slashing the young growth of July and August is generally discountenanced. It has murdered more promising vineyards than any other practice. But the people are apt to run into extremes, and many are advocating the "let alone" doctrine. We think both are wrong, and the true course to steer is in the middle.

1st. Perform the operation early: Do it as soon as the shoots are six inches long. At this time you can overlook the vine much easier. Every young shoot is soft and pliable. You

do not rob the vine of a quantity of foliage it cannot spare (as the leaves are the lungs of the plant and elevators of the sap). You can do three times the work that you can perform a week later, when the shoots have become hardened and intertwined by their tendrils. Remember that the knife should have nothing to do with summer pruning. Your thumb and finger should perform all the work, and they can do it easier if it is done early.

2d. Perform it thoroughly and systematically. Select the shoots you intend for bearing wood next year. These are left unchecked; but do not leave more than you really need. Remember that each part of the vine should be thoroughly ventilated, and if you crowd it too much, none of the canes will ripen their wood as thoroughly nor be as vigorous as when each has room, air, and light. Having selected these, commence at the bottom of the vine rubbing off all the superfluous shoots, and all which appear weak or imperfect. Then go over each arm or part of the vine, pinching every fruit bearing branch above the last bunch of grapes, or if this should look weak or imperfect, remove it and pinch back to the first perfectly developed bunch. Should the bud have pushed out two or three shoots, it will generally be advisable to leave the strongest, and remove the balance. Do not think that you can do part of it a little later, but be unsparing in taking away what you intend to take this time. Destroy all the caterpillars, and all the insects you find feeding on the vines; the steel-blue beetle, who will eat into the buds; but protect the lady bug, mantis, and all the friends of the vine.

We come to the second stage of summer pruning. After the first pinching, the dormant buds in the axils of the leaves, on fruit bearing shoots, will each push out a lateral shoot, opposite the young bunches. Our second operation consists in pinching off these laterals back to one leaf as soon as we get hold of the shoot above the first leaf, so that we get a young and vigorous leaf additional, opposite to each bunch of grapes. These serve as elevators of sap, and also as excellent protection and shade to the fruit. Remember our aim is not to rob the plant of its foliage, but to make two leaves grow where there was but one before, and at a place where they are of more benefit to the fruit. By our method, our rows of vines have the appearance of leafy walls, each bunch of the fruit properly shaded, and yet each part of the vine is properly ventilated.

We come now to another part of those accidental discoveries which have proved of great use to us in the management of the Concord, Herbemont, Taylor, etc. In the summer of 1862, when a piece of Concord, planted in 1861, was growing rapidly, a severe hail storm cut up the young shoots, completely defoilating them, and breaking the tender and succulent shoots at a height of about two feet. The vines were growing rapidly, and dormant buds in the axils of the leaves immediately pushed out laterals, which made fair sized canes. In the following fall, when we commenced to prune we found from three to five of these strong laterals on each cane, and accordingly shortened them in from three to five and six buds each. On the laterals we raised as fine a crop of grapes as we ever saw—certainly much finer than we had ever before raised on the strong canes; and we have since learned to imitate hailstorms by pinching the leaders of young shoots when they have grown, say two feet, forcing out the laterals and growing our fruit on the latter, thus meeting with another illustration of the old proverb: "It is an ill wind that blows nobody any good."

After the second pinching of the fruit-bearing branches, as described above, the laterals will generally start once more, and we pinch the young growth again to one leaf, thus giving each lateral two well developed leaves. In closing let us glance at the objects we have in view:

1st. To keep the vine within the proper bounds, so that it is at all times under the control of the vintner, without weakening its constitution by robbing it of a great amount of foliage.

2d. Judicious thinning of the fruit, at a time when no vigor has been expended in its development.

3d. Developing strong, healthy foliage, by forcing the growth of the laterals and having two young, healthy leaves opposite each bunch, which will shade the fruit and serve as conductors of the sap to the fruit.

4th. Growing vigorous canes for next year's fruiting and no more, thereby making them stronger; as every part of the vine is accessible to light and air, the wood will ripen better and more uniformly.

5th. Destruction of noxious insects. As the vintner has to look over each shoot of the vine, this is done more thoroughly and systematically than by any other process.—*From the Wine and Fruit Grower.*

NIAGARA AND ITS WILD FLOWERS.

A lovely afternoon in the Indian summer! We are sitting near the top of the hill close above the great Horseshoe Fall at Niagara, and the wealth and loveliness of the wild flowers, forming one of Nature's most exquisite wild gardens, lying stretched out at our feet, makes us think how many of our gardening friends—yourself more than most—would find a deep enjoyment could they be here, and see what we are now seeing, and what I will try to to describe, faint and feeble though my description must necessarily be in comparison with the glorious reality.

The great Cataract itself is in unusual magnificence; the early autumn rains have brought a large body of water into the lake, and the torrent of liquid emerald pouring over the jagged rocks is deep and massive, and its thunder has an unwonted tone of grandeur and solemnity. Far away in the distance lie the quiet waters of the great lake, placid and unstirred as yet, and the white sail of a far-off boat is seen as it gets an occasional gleam of sun while passing from one shore of the lake to the other. Nearer at hand, for the space of a mile or so before reaching their doom, the waters, placid no longer, foam and swirl, hurrying madly along. Every dancing wave crest is turned into molten silver in the rays of the westering sun; every rock lying in the channel seizes a passing wave and whirls it upward in masses of glittering spray, till at last, when on the brink of the great chasm, there comes to the rushing waters a sudden gathering up of irresistible strength, and they, whose only object hitherto seems to have been to dash themselves past all obstacles with reckless and ever-increasing speed, become all at once possessed with a sense of their awful power as they suddenly, swiftly, silently, drop over the perpendicular rock into the fearsome turmoil below, great green jewels, wide and deep, in a setting of frosted silver.

And this solemn magnificence and grandeur has the exquisite contrast of so lovely and peaceful a foreground! The hillside down which we are looking, and which stretches to the edge of the water, is aglow with vivid colour—huge golden masses of Solidago of many kinds, great clumps many yards wide of big, deep purple, primrose-eyed Asters alternate with those of a pale shimmering lilac, and with others small

flowered but profuse in bloom, while throughout the undergrowth is a bright blue gleam, as though some spangles had fallen from the sky—the gift of a flower of which the name is unknown to me. Then from out the grass shine everywhere small bright flowers of many colours, among them a delicate Gentian-like bloom bravely lifting its head up on slender stalk. And there are so many lovely flowers besides—a bush covered with apricot-coloured blossoms in shape like a Mimulus, a glowing mass of red Lythrum, and a delicately lovely Aster, in which the lilac is replaced by a sheeny grey-pink. The feathery blooms of Spiræa and some white Daises shine here and there among their more richly-coloured sisters. It is indeed a garden unapproachable in its own beauty, and with its tender loveliness made more impressive by its wonderful surroundings.

Just where we are sitting we have taken advantage of masses of tall shrubs and the stems of forest trees, to shut out from view all buildings and roads, and have left ourselves with the Falls and the Nature-planted garden as they might have been seen long, long ago. There is hardly a breath of wind; the great misty columns of spray rise high into the sky from the base of the falling water, and it is only at rare intervals that a wandering spirit of air takes one of the lighter spray clouds and bends it over towards us, when its soft and dew-like mist is shed over the thirsty flowers, making their vivid colours glow with intenser beauty in the rays of the setting sun. As the gentle breeze passes by they bow their heads in gratitude for the welcome moisture, and a rustling murmur runs from top to bottom of the hill as they raise themselves up again in thankful praise.

And ever the voices of the waters are circling around us, now seeming to raise a threatening warning of their irresistible power, now chanting a solemn death song as they are hurled over the precipice to be broken to the very last drop into foam, and spray, and mist on the rocks below, and ever through the voices, now loud, now low, with unceasing iteration, seems to vibrate a note of praise to the great Creator of all for the use He has made of them in the formation of one of the wonderful sights He has given on earth for our enjoyment.

And now, with sudden dip, the sun is lost behind the hill; the air strikes chill, and the flowers begin folding themselves away to sleep, but the beauty of the scene entrances us yet. In front of the now dark and sunless foreground sweeps the broad horse-shoe of foaming and struggling water; the great emerald is now changed into a myriad-tinted opal; the wavelets that leap into the air all along the whirling rapids are dyed with a flush of pink; while from far down in the gloom and depths of the Great Fall a rainbow rises into the misty mass of spray. Above, around, and through the spray gleam the floating clouds in the evening sky—now blushing o'er with rosy flame, now slowly changing to a lustrous gold, till all colour slowly fading gleam by gleam away, the grey hush of the coming night falls over the wondrous scene.

As we rise to begin our way down the hill, our first step seems to bring us back from a world of dreams, and we know afterwards that the same thought was in both our minds and the same words were ringing in both our ears—those words in which God gives us a foreshadowing of His eternal mysteries; "Eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that love Him." H. Stuart Wortley (Colonel), *in the Garden.*

HOW TO CAN FRUIT AND SAVE YOUR SUGAR.

I presume all know that there are several kinds of sugars. Cane sugar, grape sugar or glucose, and milk sugar are the principal varieties. Of these, cane sugar stands pre-eminent for its sweetening properties, being rated at 100, while grape sugar is only rated at 40. In other words, it takes two and one-half pounds of grape sugar to equal one pound of cane sugar. I presume, however, that your readers do not all know, what is known to every chemist, that when cane sugar and fruit are boiled together the acid of the fruit causes a chemical change in the sugar to take place, which changes the sugar to grape sugar.

I do not suppose they intend to throw away six pounds of sugar out of every ten they use in the preparation of fruit. Yet such is the fact. They have, as a result of the boiling, ten pounds of glucose, which is only equal to four pounds of sugar; and besides this loss the fruit has, to a great extent, lost its true flavour, and is, of course, inferior in quality to that sweetened with cane sugar. How can fruit be sweetened with cane sugar without making this change and loss of flavour? As that is the principal object of this paper I will answer the question.

First, cook your fruit until it is "done;" then, if you have time, let it get cold, and then add your sugar, mixing it well; let it stand an hour or more. The sugar by that time will be absorbed by the fruit. You will then have saved all your sugar and preserved the flavour of the fruit at the same time. If you have not time to wait add your sugar when the fruit is only partially cool, and you will only lose 5 or 6 per cent. of the sugar.

In the making of preserves there are two ways to avoid the loss of sugar. One is to use only glucose and fruit in equal parts, as it is much cheaper to buy glucose than to make it of the higher priced cane-sugar. Another way is to cook your fruit as before described, then add one-half a pound of sugar to the pound of fruit and seal up in cans, or steam the fruit when practicable, lay it in the cans and fill up with hot syrup made so as to contain the proper proportion of sugar, and seal. You will then save nearly all the sugar. Preserves made in this way will ferment unless sealed in air-tight cans.

In the ordinary canning of fruit no sugar should be used, as a part of it turns to glucose while hot, and if the fruit in the can ferments through some imperfection in the process, as frequently happens, your sugar is lost entirely. Open your cans an hour or more before meal time, add your sugar, mix it well and let it stand; the sugar will thoroughly permeate the fruit by that time and no sugar is lost.

I suppose everybody uses glass cans to a greater or less extent. A good many years ago a lady taught me how to fill a cold glass can with boiling fruit without the danger of breakage. I have seen the plan tried often enough to have entire faith in it.

Place in the empty can a spoon that is long enough to reach from the bottom to the top of the can, pour in your boiling fruit, remove the spoon and seal. The can will not break. Please do not ask me to explain the philosophy of it, as I dislike very much to plead ignorance, so I hope you will ask some of the knowing ones in your vicinity and let me know the explanation.—*Correspondence of Indiana Farmer.*

JOHN PIKE'S CATALOGUE of choice seeds, spring bulbs and garden requisites, Dundas street, Woodstock, Ont.

BOOK NOTICES.

THE FLORIDA DISPATCH, published by Ashmead Brothers, Jacksonville, Florida, is a most valuable agricultural weekly, containing much interesting information concerning the climate, soil and productions of Florida. Subscription, $2.00 a year. We learn from it that Florida has appointed a commissioner for the State to make collections of her productions to be exhibited at the great International Exposition to be held next winter in New Orleans.

BARTHOLDI'S GREAT STATUE, which is to adorn the harbor of the city of New York, is very handsomely represented in a large and beautifully executed chromo-lithograph that has been sent to this office by the Travellers Insurance Company of Hartford, Connecticut, which has contributed a large donation towards the erection of this imposing statue of "Liberty enlightening the world."

WAR NOTES, a weekly campaign paper just started for the benefit of the general Scott Act campaign inaugurated by the Dominion Alliance, is issued by the *Witness* publishing house, Montreal, at one dollar for twenty copies weekly for six months. It gives news of the working of the Scott Act where it is in operation as well as campaign news.

READY REFERENCE LIST for agricultural advertisers, giving lists of newspapers devoted in whole or in part to agriculture, with the circulation of each and cost of advertising therein. Sent to any address on receipt of postal card asking therefor by Tracy & Diets, No. 927 Chestnut street, Philadelphia, Penn.

THE LITTLE CHRISTIAN, an illustrated paper for children and Sunday Schools, published bi-monthly, at 25 cents a year, by H. L. Hastings, 47 Cornhill, Boston, Mass. The sample copies that we have seen are very neatly printed and handsomely illustrated, and full of wholesome reading—a matter of great moment now-a-days when so much trash is afloat—and that set forth in a style clear, concise, and yet such as will interest young readers, and grown up children as well.

THE SCHOOL SUPPLEMENT, published monthly, by Eaton Gibson & Co., Toronto, at one dollar a year, in the interest of teachers and scholars. The initial number is full of matter that will be of service to all educationists, and if the intention of the publishers is maintained throughout the year, namely of "conducting a paper which will prove indispensable to teachers and pupils," it should be read by every school trustee who desirs to be able to act intelligently on the questions relating to school management that are continually being presented.

DIO LEWIS' MONTHLY for January, the only number we have seen this year, discusses the temperance question from a standpoint different from that usually taken by its advocates. The writer takes the ground that intemperance is a vice, not a crime; and therefore, although the sale of intoxicating liquors panders to this vice, we can not justly prohibit the manufacture and sale of these articles on that account, any more than we could prohibit the sale of silks, jewelry, and the like, on the ground that they tempted people to extravagant expenditure and ruinous waste. On the other hand, the writer maintains that inasmuch as the adulteration of articles of food and drink is a crime, the temperance advocates have it in their power, by bringing the laws against adulteration to bear upon the vendors of liquors, to shut up every bar and every saloon in the land. The magazine is published by Frank Seaman, 68 Bible House, New York.

LITTLE MISS BRIER.

Little Miss Brier came out of the ground ;
She put out her thorns and scratched everything 'round.
"I'll just try," said she,
"How bad I can be ;
At pricking and scratching there's few can match me."

Little Miss Brier was handsome and bright,
Her leaves were dark green and her flowers were pure white ;
But all who came nigh her,
Were so worried by her,
They'd go out of their way to keep clear of the Brier.

Little Miss Brier was looking one day
At her neighbor, the Violet, just over the way ;
"I wonder," said she,
"That no one pets me,
While all seem so glad little Violet to see."

A sober old Linnet, what sat on a tree,
Heard the speech of the Brier, and thus answered he
"Tis not that she's fair,
For you may compare
In beauty with even Miss Violet there :"

"But Violet is always so pleasant and kind,
So gentle in manner, so humble in mind,
E'en the worms at her feet
She would never ill-treat,
And to Bird, Bee, and Butterfly always is sweet."

The gardner's wife just then the pathway came down,
And the michievous Brier caught hold of her gown ;
"Oh dear! what a tear!
My gown's spoiled, I declare ;
That troublesome Brier has no business there ;
Here, John dig it up ; throw it into the fire."
And that was the end of the ill-natured Brier.

In The Little Christian. MRS. ANNA BACHE.

COAL ASHES.

The following extract is from the bulletin of the New York Agricultural Experiment Station ; E. L. Sturtevant, Director.

Oftentimes careful observation may take the place of experiment, and such observations have a special value when the results of the observation have been uniform for a long series of years. The question as to the value and the use of coal ashes has been for a long time an interesting one and is getting to be more and more of a question as the use of coal extends.

One of the most desirable uses for coal ashes is to place around the stems of currant bushes, of quince trees, and the Mountain Ash, in order to check the ravages of the borer. In the garden of Mr. Robert J. Swan, of Geneva, are extraordinarily thrifty currant bushes, to which coal ashes have been applied for many years, and which have not only been free from the borers, but also from the attack of the currant worm. There are also quince trees of equal thriftiness, which have been under like treatment, and in the lawn are a number of Mountain Ashes, some of which have been treated with coal ashes and the others have not, and the difference in vigor is extremely well marked in favor of those to which coal ashes have been applied. The ashes for this purpose are heaped up about the stem to a height perhaps of six to eight inches and extending about two feet from the trunk. The explanation offered is, that the ashes afford mechanical protection and also are of advantage as a mulch in maintaining moisture and cool temperature for the soil.

Coal ashes may also be found desirable for use in ameliorating heavy clay soils, the intermixture preventing to some extent the baking which is so apt to occur after rains in early summer. The chemical value of coal ashes where wood kindlings have not been used is of very little account, and we can say that there is no doubt but, that field experiments in general, with coal ashes, have proved quite conclusively their uselessness. In analyses of coal ashes from the Pennsylvania white-ash coal, examined by Prof. Storer, 0.05 per cent. of phosphoric acid and 1.47 per cent. of potash was found, but these quantities, as Prof. Storer well says, are inferior to what would have been found in good pit sand from eastern Massachusetts.

SAVOY CABBAGE.—The Savoy cabbages are almost as tender as the cauliflower, have a distinct flavor, and a marrowy consistence of their own, which some prefer to cauliflower. These being as easily raised as the common cabbage, are within the reach of all. Those who have cultivated Savoy cabbages need no advice ; to those who have not, we say, by all means try the Savoys. The English authors of works on gardening regard them as so different that they class them by themselves, under Savoys, and not among the cabbages. When we first knew them there was but one kind, "the Savoy," now there are a dozen or more Savoys, including early and late kinds. Perhaps the "Improved American Savoy" will be best for those who try Savoys for the first time. Afterwards they will be glad to test the early and late kinds The seeds are to be sown and the plants treated exactly as those of the ordinary cabbages.—*American Agriculturist.*

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPP, CLARK & CO. COLBORNE STREET TORONTO.

ROSE.--QUEEN OF THE PRAIRIES.

THE

Canadian Horticulturist.

VOL. VII.] JUNE, 1884. [No. 6.

CLIMBING ROSES.

You have seen a quiet home in the country, or suburban residence, it may be, with rose-covered verandah, and you thought you never had seen anything more pleasing. The blending colors of various shades, set off with the fresh, green foliage, gave that home a charming aspect, and you resolved to plant some climbing roses about your own dwelling. That you may plant and enjoy the fruit of your labor, that you may be spared the disappointment of having planted only to see your own rose-trees perish, is the object of this short paper.

There are many varieties of climbing roses, and some of them of great beauty. Were our climate not so severe in winter we might greatly extend our list of roses with which to cover a verandah, or trellis, or hide a wall. One of the most beautiful sights of Jacksonville, Florida, is the trellis of Marechal Niel in the grounds of Dr. Kenworthy. But we must content ourselves with roses of a hardier race, and one of the important lessons for us to learn is that of the hardiness of the several kinds.

The Ayrshire Roses are almost hardy enough to endure the climate of the south shore of Lake Ontario and the north shore of Lake Erie. Through some of our winters in those parts of the country they pass unharmed, but they are liable at any time to serious injury. The Dundee Rambler belongs to this class. It yields a great profusion of semi-double white flowers, and is a favorite with the writer. Queen of the Belgians is creamy white, and Ayrshire Queen is a crimson purple; but none of the family can be relied upon to endure our winters.

The Boursault Roses are hardy enough, but they are not sufficiently beautiful to satisfy most rose growers. Yet they are profuse bloomers, and being natives of the Alps they should endure the rigor of a Canadian winter. It has been the fashion with writers on the rose to speak slightingly of this family, and one enthusiastic cultivator calls it worthless. Your editor begs to dissent from this judgment, and to say that it is well worthy of being grown in all the colder parts of our country until some variety as hardy and more beautiful can be found to take its place. In an experience of nearly fifty years we do not now remember to have seen it

injured by the winter, nor fail to be covered in its season with a profusion of bloom. There are two varieties that have been usually grown: the Crimson, yielding large semi-double, purplish crimson flowers; and the Blush, of a deep flesh color.

The Banksia Roses yield very beautiful, small, double white, or yellow or rose-colored flowers, which are produced in such profusion that each branch is a garland of roses. It is recorded that there was at Toulon, France, in 1842, a Banksia rose-tree which covered a space of eighteen feet by seventy-five, and had upon it from fifty to sixty thousand roses open at one time. But alas, the Banksia Roses are too tender for this climate, and the Canadian rose grower must pass them by, and seek more hardy sorts.

The Many-flowered, or Muliflora Roses are also tender in this climate, too tender to be successfully grown. Of this family is the variety known as Seven Sisters. If one desires to make the attempt at growing tender climbing roses, he will find the tea-scented Noisettes, such as Marechal Niel, Solfaterre, Lamarque, etc., about as hardy and much more beautiful.

The Prairie Roses are the most hardy of our popular climbing roses. To this family belong Queen of Prairies, Baltimore Belle, Anna Maria, Triumphant, and Gem of Prairies. Of these the Baltimore Belle is somewhat tender, and in our more severe latitudes will likely be injured by the winter. Yet it is to this family that we must look for our most desirable climbing roses. Of those at present in cultivation we esteem most highly the Queen of Prairies, a colored plate of which adorns this number. It has sufficient hardiness to endure our climate, the flowers are handsomely cup shaped, of a pleasing color, and produced in great abundance. Anna Maria is of a pale pink color, with few thorns. Triumphant is rosy-red. Gem of the Prairies is also rosy-red and slightly fragrant; the only one of the Prairie family that can lay any claim to fragrance.

In growing climbing roses it is important that the border in which they are planted should be well supplied with fertilizers. On the approach of winter the surface of the ground over their roots should be well mulched with partially decayed leaves or barnyard manure. Use the knife sparingly, cutting out only what may be necessary to remove in order to prevent over-crowding.

MIDSUMMER MEETING OF THE FRUIT GROWERS' ASSOCIATION.

At the invitation of the Town Council of Berlin the Association will hold its next meeting in the Town Hall on Wednesday and Thursday, the 25th and 26th of June, 1884, commencing at ten o'clock a.m., June 25th. The following are the only subjects that have been suggested for discussion: The Sparrow, its habits, its food, and the food upon which it raises its young. Is it a useful bird or a pest? The black knot on the plum and cherry trees, and its cause. Why do healthy and thrifty trees that blossom abundantly fail to set their fruit? The best varieties of fruits for Berlin and vicinity. The best time to prune fruit trees.

The Directors will meet at Berlin on Tuesday evening, June 24th.

FLORIDA IN WINTER.

(Continued from page 102.)

A further sail of some seventy-five miles up the St. John's River brings us to Palatka. Here we spend the day in looking about and visiting the orange grove of Mr. H. L. Hart, on the opposite side of the river. Through the politeness of one of the principal merchants, we were permitted to visit his country seat just out of the town. Here we found the first pear trees we had seen in Florida. They did not seem at home in this sand-bank, and were barely able to live. The Drummond Phlox had evidently escaped from cultivation and was in blossom almost everywhere. But such plants as they were, one short, straight wiry stalk, with a little umbel of flowers on the top, so starved looking, one could not help pitying the poor things. But the young orange trees looked vigorous and healthy, so that one must conclude that pure white sand suits their constitution. The vegetable garden was located very near to the bank of the river, where the ground was damp and the soil full of leaf mould. The vegetables did not seem to know what to do with themselves, but were apparently debating the question whether to grow or not to grow. The rose garden was filled with many choice varieties, chiefly the ever-blooming sorts, and had the same lack of fine foliage and vigorous healthy look which we had noticed at Jacksonville and St. Augustine; nevertheless they were well filled with bloom.

A little, puffing steam tug took us across the river to Mr. Hart's orange grove. It contains about three thousand trees, not all of them yet in bearing. We found Mr. Sperry, the manager, and introducing ourselves, received from him a very cordial welcome. He accompanied us through the grounds and patiently answered our numerous questions. Here we found three varieties of oranges were being cultivated, but chiefly the variety known in our northern markets as the Florida orange. The other kinds are known as the Mandarin and Tangerine. These sell at high prices in New York city during the holidays, being in demand for their social entertainments, because when peeled the quarters fall readily apart and ladies can eat them without soiling their gloves. The Mandarin is a small growing tree, having much finer foliage than the common variety, but the Tangerine seems to grow as large as the common kind. The trees are nearly all out of flower and the young fruit set for the new crop, and yet most of the trees are laden still with ripe fruit. The oranges ripen in November and are gathered as wanted from that time until April. If any remain as late as April they are then gathered and sent to market. It is very convenient to be able to store the fruit on the trees through the winter and gather it as required either for personal use or for sale. One orange tree was shewn us by Mr. Sperry of larger size than any of the other trees whose crop in one year he stated to have been six thousand oranges.

Here we made the acquaintance of a fruit of the citrus family known as grape fruit. The name seemed very inappropriate, for we could see no manner of resemblance to a grape, neither in the fruit nor the tree that bore the fruit. To our inquiry why the name was given to a fruit usually larger than an orange and nearly of the color of a lemon, Mr. Sperry replied that he supposed that it was because the fruit was borne in such clusters, reminding one by their number and proximity of grapes on a bunch. Well, perhaps this is the reason; it will do in absence of a better, but he was certainly a most imaginative genius that perceived the similarity. This grape fruit is very juicy, with a

slight taste of bitter mingled with a mild acid. We were told that it is sometimes used as a mild tonic when slight symptoms of malaria appear, certainly it is more agreeable to the palate than quinine. A few lemon trees are also grown in this grove, but our impression is that the lemon thrives better in more tropical portions of the State.

Banana.

Bananas were growing on one side of this orchard skirting the river bank. On some of them we found bunches of fruit, and on one a flower bud. The process of inflorescence of this plant is quite novel. The large purple flower bud hanging from its recurved stem is in truth, so far as it meets the eye, a large purple spathe infolding a ring of fertile flowers arranged around a central stem. This purple spathe gradually unfolds disclosing a circlet of young bananas, and beneath them another purple spathe which in its turn unfolds, disclosing another circlet of fruit, beneath which is yet another spathe with its infolded contents. This process is continued until the bunch of fruit is completed with its several clusters or circles of fruit. The banana is very sensitive to frost, hence the crop is very uncertain in this part of Florida, for frosts do sometimes visit this region with sufficient severity to injure the orange trees. Of this we had evidence in the mutilated condition of some of the older trees in this grove. It will be difficult to find a place where the labors of the fruit grower are not sometimes frustrated by untoward causes. Much has been said by interested parties in Forida about the frost line, below which there is no frost, but the writer is fully persuaded that no such line exists. There has been and there will be again winters of unusual severity, when the frost will be sufficiently severe to seriously injure vegetation. We are credibly informed that in Feburary 183 , the St. John's River was frozen for several rods from the shore and the thermometer indicated seven degrees above zero, Farenheit, at St. Augustine. And again in January 1857, the mercury fell to sixteen above zero at Jacksonville.

But the weather was delightful at the time of our visit to this grove, and after our feet were weary with wandering through it, we sat down to enjoy the soft breezes, and look at the overshadowing arches of green so richly studded with gold. Surely Solomon must have been thinking of oranges when he spoke of apples of gold. The scene presented to our view, and the whole of the surroundings were not only new but novel, and novelty adds much to the zest of enjoyment. We had all of us seen more gorgeous sunsets than the one now brightening the western sky, and listened to the vesper hymn of birds as melodious as that which now was warbled on the evening air; we had gazed on scenery more grand and quite as beautiful as that now

spread out before us, and been fanned by breezes as soft as those that now kissed our brows; but I doubt if any one of us ever enjoyed a sunset hour more keenly than the one we spent in that orange grove.

"SPRING WORK IN THE GARDEN."

(For Canadian Horticulturist.)

Mr. Editor,—I send you a fine description of spring work in the garden, and the results, as clipped from one of our village locals. I am sure you will be very much amused at it, for although it may be true of that particular village, it is not true of any other that is within the range of my observations:

"At this season of the year the industrious owner of a town lot, riseth up before the sun in the morning, girds up his loins, seizes a spade, and delves the fertile blue mud until the welcome breakfast bell recalls him from his labors. As the net result of his season's work he will have: one case rheumatism, one ditto lumbago, one pair demoralized pantaloons, two pairs second hand shoes (tramp's choice), half-a-dozen sickly onions, two bunches lettuce, five stalks of rhubarb, and half-bushel potatoes."—*Watford Advocate*, May 2nd, 1884.

On the other hand, we frequently have occasion to admire the beautiful locations of many of the pleasant and thriving towns and villages of our proud Ontario. They seem to be founded on the very richest and most beautiful spots of earth that ordinarily fall to the lot of man to possess. Every township in every county holds as a precious inheritance high, and well-drained, rich alluvial soils that are the wealth of nations, and these are sure to be the proud site of some large or small, more or less thriving town or village, with its wealth of happy and prosperous citizens. This is just as it should be, and they are the pride of the country at large. Talk about hard feelings, bickerings and war between the town and country! It is all purest nonsense; they all need one another, and are proud of each other's possession. Those town and village sites are the loveliest spots of earth that enrich and beautify a country, and are as stars in the ever blue firmament of its glorious history. Each of its inhabitants is an ant in the mole hill, and all are working for the general good of the entire community. The poorest man amongst them may be as happy and self-important as a prince in the possession of a town lot or of several, and on this he toils with never-tiring energies early and late, delving, not in the "*fertile blue mud*," but in the *more fertile* grey or black mould of our rich alluvial soils. And why should he not thus work with unflagging diligence? It may be that his lot is the admiration and pride of the entire corporation. In this very village to which our extract applies, we know in particular of one of those happy and fortunate possessors of a beautiful town lot that is looked to and is the admiration of the entire village. The owner is a florist of no mean pretentions, and to walk up and down that street and only gaze from the outside upon those lovely beds of rich and varied colour is a joy and lasting pleasure every villager prizes, and is in the conversations of every gossiper. Now, sir, you yourself, with your finely cultivated attainments, I may be safe to say, would be delighted to pass some fine summer evening by that man's garden, and you would in all likelihood be amongst those who stop to gaze at the variety of colour and beauty, and to sniff the fragrant perfumes that float from that spot of cultivated earth and fill the surrounding air. Is not this as it should be? In every village we find them; these precious workers for the general good; the very "salt of the earth," with their rich endowment of fine taste and well trained muscle.

What would our country do without them, for they are the very kings and princes of society, and are worthy of our deepest respect and reverence. They are the teachers of the race and the guides of the whole mass to better things. and they point us to a period in our country that is intensely glorious and beautiful in the not far distant future. All honor to them, and let their names be held in everlasting remembrance, and their works shall follow them.

ANOTHER POINT.

How many a man by rising early these beautiful May mornings and drinking in freely the life-giving and energy-producing air of the morning has secured health and happiness and freedom from the strong temptations of the mere lounger at the corner. We firmly believe that those garden plots, and the interest and kindly care that is bestowed upon them are the "*Saviours of Mankind*" in a very important, or rather in many important senses. In this way is the love of home enkindled and fanned into a devouring flame. Everything he does upon his lot makes his home more beautiful and more attractive to him and to the dear faithful partner of his joys, and the children that may be given them. As the home grows in beauty, the hearts of all are more attracted to it, and firmly to one another. Is this worth nothing? Again by these efforts the man's lot and his circumstances are gradually and surely bettered. The grateful and fruitful earth will surely respond to his generous efforts and not a moment's toil will be left unrepaid. The savoury vegetables, the luscious fruit and the sparkling and beautiful flowers will come to his hand to rejoice him as surely as the silver dollar will come into his hand for his day's labor.

Again, when he goes from his shop in the evening tired and weary with the confinement and stagnant air of indoors. and many muscles aching that have not been employed during the day, for the profitable employment of his evening hours,that will surely bring sweet and refreshing rest during the night, who can rightly estimate the true value of the home garden? From the shop to the street corner, to the carousing house, to the gambling table, to the tavern to spend the precious hours of evening before rest. how inconsistent, how injurious? The thing is a farce, a vile temptation and no man can prosper by it. But in the garden, after the frugal evening meal, the air fragrant with spring and summer breezes, the strength is renewed, the spirits are enlivened and cheered, the wife and family delighted, and the whole prospect of the man brightened and bettered. A man thus trained from his marriage day, or from his early youth, is a better man than the mere dandy lounger, though his clothes should be of finest broadcloth, his fingers loaded with gold and silver, and jewels dangling at his side. If he is a mere lounger and nothing else, though he be the son of a duke or a prince, he is an object of contempt, and not of envy. But the honest, frugal and progressive man. who is not above the labor that cheers and blesses, is the man to be esteemed and regarded as the wealth of his country and the prince of his people. Let us then be careful how we lightly esteem those simple labors that are accompanied with so much of blessings. And further, let us not begrudge those simple efforts in tilling the grateful soil, that will so surely bring such rich and abundant rewards to the labor and expense bestowed upon it. In this way we shall most surely and effectually benefit ourselves, and ennoble and beautify the country of which we form a humble part.

Arkona, May 5th, 1884. B. GOTT.

PROPOSED REMEDIES FOR SCAB ON APPLES.

By Wm. Saunders, London.

At the winter meeting of our Association held in Woodstock, among many other interesting topics discussed was that of the fungus, which is popularly known as "spot" or "scab" on apples. A committee of gentlemen present volunteered to conduct a series of experiments during the coming season to test the value of sulphur and sulphur compounds as preventatives, and with the view of aiding in this work I agreed to furnish a short paper for the *Canadian Horticulturist*, giving suggestions as to the substances most likely to be successful, and the proportions in which they should be used. At the same time it was agreed that experiments should be made to further test the value of Paris green as a remedy for the codlin moth.

Sulphur.—By this term is meant that form of sulphur in fine powder, known as flowers of sulphur or sublimed sulphur, an article everywhere procurable and cheap. The usual retail price of it is ten cents per lb. The proportion which should be used is one pound in from ten to fifteen gallons of water, and applied with a syringe or force pump. The finely divided sulphur must be kept in suspension by stirring the liquid frequently with a stick. When this mixture is showered on the tree a fine deposit of sulphur collects on every part of it, and by the action of the sun and air the sulphur is gradually converted into sulphurous acid gas, one of the most efficient agents known for the destruction of mildew and fungi.

Hypo-Sulphite of Soda.—This is a white salt, readily soluble in water. It is made by boiling sulphur with a solution of caustic soda, at the same time passing into the mixture a stream of sulphurous acid gas. It is much used by photographers, and is generally kept by druggists, and in cities is usually sold at about ten cents per pound. This may be used in the proportion of one pound, dissolved in ten gallons of water, the mode of application being the same as for the mixture of sulphur and water. As the solution in this instance is perfect no stirring is needed, and when this salt is thus dissolved in water and freely exposed to the air, as it is when sprinkled on the foliage of trees, it decomposes and deposits sulphur which acts as already described.

Sulphide of Lime.—This substance may be prepared in the liquid form by boiling together two pounds of sulphur and one pound of quick lime in two gallons of water with frequent stirring until the liquid assumes a reddish yellow color, when it may be allowed to settle, and the clear liquid poured off. This should be applied to the trees in the proportion of one pint of the solution to fifteen or twenty gallons of water, and being a clear solution after it is once well mixed it will need no further stirring. The sulphide of lime solution should be made out of doors on account of the offensive odor which is given off during the process. Any old tin or iron vessel which is sound will do to make it in; the vessel containing the mixture may be placed on a few bricks built up so as to admit of a small fire underneath, and while boiling it should be frequently stirred with a stick.

All of these substances are likely to be of use, they are very cheap, and it is desirable that they be used on a large scale and the results reported. The liquids should be applied soon after the fruit is well formed, and the application repeated several times during the season, varying the number of applications in different instances, so as to determine if possible how many are needed.

With regard to the use of Paris

green for the codlin moth, a quarter of a pound of the pure article should be well mixed with about forty gallons of water, and kept constantly stirred while being applied with a syringe or suitable pump. The proper time to make the application is soon after the fruit is formed and while it is still in an upright position, when small drops of the solution find their way into the calyx or eye of the apple, and drying deposits there a minute quantity of the poison sufficient to destroy the young larva of the codlin moth as soon as it is hatched. As an additional precaution a second application may be made a few days after the first. Where orchards are in grass the use of this poison is attended with danger as a large proportion of the mixture will necessarily fall to the ground and lodge on the blades of grass and in the little hollows about their base, and to some extent remaining there may seriously injure any cattle fed with it. When Paris green is used, it should be associated with clean culture, or otherwise animals should be kept out of the orchard, and the grass, if cut, be allowed to decay on the ground.

SPARROWS AND OTHER BIRDS.

DEAR SIR,—Having read in our "Journal," "*The Canadian Horticulturist*," several interesting letters and articles on the above subject, I take the liberty of sending you some extracts from articles in the *Leisure Hour*, etc., which, though much curtailed, form a rather long letter, yet I am sure they will be of interest to our fellow members and agriculturists in general.

A club for the destruction of sparrows and other birds was in formation in one of the counties of England. At the inaugural meeting the following facts were elicited:—

One farmer having destroyed upwards of 10,000 small birds in the season, yet his crops were not even up to the average of the neighbouring farmers, being eaten up with wire worm and grubs.

Another farmer having killed five birds that morning opened their crops, and found that a crow or rook which was busy with his beak at the roots of barley, which was just springing from the ground, when shot, contained nothing in his crop but cockchafer grubs, worms, and some maggots of the cornfly. The truth is that the rook does not, as a rule, attack the healthy blades of corn, but sees with the wonderful quick sight with which his Maker has endowed him those which are fading and perishing, and knows by instinct that there is a worm at the roots of such blades. It is the worm he digs for, not the corn, though he will eat that when there is nothing else to get—in the winter, for instance, or dry weather, when the ground is too hard to dig below it. But their natural food is grubs and insects; the wire worm and larvæ of the click-beetle they are particularly fond of. They can be seen following close to the heels of the ploughman. Of course, they cannot then be picking up grain as none has been sown, but are devouring the grubs and insects which are waiting to devour the crops. We therefore need not grudge them a little of the ripened corn when they are driven to it afterwards by hunger, for they have more than earned their share of it.

Some years ago an entire district was nearly deprived of its corn harvest in consequence of the rooks having been killed by order of some of the local authorities, the grubs increased to such an extent that they ate up all the crops.

The same thing happened in France before the Revolution of 1789. The Government found it necessary to offer rewards for the best method of destroying the grubs, and yet the farmers ignorantly went on shooting rooks and

other insectivorous birds, as if they had been their greatest enemies. In one instance a mob of people were so enraged against one of the land owners who had a rookery in his grounds, that they went to his house in a body, dragged him forth and hanged him on a branch of a tree, after which they shot his rooks in triumph. The proper way to have delivered their fields from the grubs which ravaged them, would have been to encourage rather than have killed the rooks, and have thanked the owner.

If every rook's nest in this land were pulled to pieces to-morrow, there is no doubt that you would all wish them in their places again, and well filled too, before this time next year.

Next bird, a swallow. He had no trace of fruit or any kind of vegetable substance in his crop, nothing but flies and gnats in very great numbers, which, if they had been suffered to live, would have given birth to thousands of others. Indeed, if there were no swallows or other small birds to kill gnats for us, we should soon be as badly off as the Egyptians were when God sent "all manner of flies" upon them for their sins. Among the flies found in the swallow's crop are some of the tipulæ kind—"daddy long legs" some call them. These creatures deposit their eggs in great numbers under the soil, and there hatched and produce larvæ in the form of elongated worms, having horns, with which they cut and bruise their food, which is the fibres of the roots of cereals, such as wheat and barley. They also do considerable mischief by disturbing the soil and exposing the sprouting seed to the sun. Therefore, we should be thankful to the swallows for destroying the flies before they give birth to these pests.

Next bird, a blackbird. His crop was full, and there are some traces of fruit and berries in it, but it contains chiefly caterpillars. It is the same with nearly all the small birds, they will not refuse fruits, but they also feed largely upon insects; if they do some injury by their own depredations, they do a great deal more good by destroying other enemies. The celebrated writer and naturalist, Mr. Bree, writes:—

"In the month of August, I was struck with the rather unusually large assemblage of blackbirds which frequented my garden Eight or ten were usually to be seen together, and one morning I counted at the same time thirteen, hopping about and chattering on the grass-plot before the house. They usually paid their visits at eight in the morning; they continued to arrest my attention for ten days or a fortnight. The birds directed their operations more especially to particular spots on the grass-plot, which they stocked up with their bills, till the turf, which had changed colour, and was supposed to be dying, became almost bare in patches, and was quite distigured by the refuse roots of grass, etc., which they left littered on the surface. Indeed, such was the rough and unsightly appearance which the grass-plot presented in consequence, that hints were thrown out that the blackbirds ought to be destroyed, for they had repeatedly been seen in the very act of distiguring the turf, and the whole mischief was, of course, from first to last, attributed to them.

"Suspecting what might be the object of the birds' research, I turned up a piece of the earth with a spade, and found it swarming with cockchafer grubs of various sizes, and this circumstance confirmed my suspicion that it was for the purpose of feeding upon these larvæ that the blackbirds had made such havoc of the grass-plot. They performed, shortly in this case, precisely the same service, by destroy-

ing the cockchafer grubs, that the rooks are so well known to do in the wheat fields. The turf, I should add, soon regained its verdure, and the injured patches were scarcely distinguishable from the rest of the plot."

Mr. Bree adds: "That there was plenty of fruit in the garden, gooseberries, currants, etc., which might have been had without trouble; but the blackbirds preferred digging through the turf, that they might devour the cockchafer grubs which were under it."

Sparrows next. Sparrows burrow in the stacks and eat a great deal of corn, it must be confessed; and many other small birds take great liberties with our sprouting crops, and eat the buds and seeds of plants and trees. But on the other hand, writes Stanley in his "Familiar History of Birds," sparrows feed their young thirty-six times in an hour, which, calculating at the rate of fourteen hours a day, in long days of summer, gives 3,500 times per week. A number corroborated on the authority of another writer, who calculated the number of caterpillars destroyed by one pair of sparrows in a week to be about 3,400. Redstarts were observed to feed their young with little green grubs from gooseberry trees twenty-three times in the hour, which, at the same calculation, amounts to 2,245 times in a week; but more grubs than one were usually imported each time. Chaffinches at the rate of thirty-five times an hour for five or six times together, when they would pause for the space of eight or ten minutes; the food was green caterpillars. The titmouse feeds the young sixteen times in the hour.

A single pair of sparrows, during the time they are feeding their young, will destroy about 4,000 caterpillars per week. They likewise feed them on butterflies and other winged insects, every one of which, if not destroyed in this manner, would be productive of several hundreds of caterpillars. Examining the sparrow's crop, you will find the larger portion of the contents is insects, etc., above-named.

And lastly, the fly-catcher. These birds may be seen watching for their prey upon the branch of a tree, darting forth with wonderful swiftness whenever a fly passes near, catching it with a snap of bill, and then returning to its post. A single pair of fly-catchers has been seen to feed their young no fewer than 537 times in one day with flies, which, if they had not been destroyed, would each have given birth to hundreds of maggots Thus, on a moderate calculation, one pair of birds will destroy, in a single day, as many flies as would produce 100,000 caterpillars.

However, after these practical demonstrations and facts, seven of the farmers were determined that they would still proceed to destroy all small birds and nests on their farms. They set to work both with guns and poison, and also offered rewards for all nests that the villagers could bring in. By these means they killed immense numbers, but the poison acted two ways, as one man lost his three cats through their eating the poisoned birds, and also lost a brood of very fine, pure breed chickens, which broke fence and got the poisoned grain also. Their hedges were also very much broken about by the boys while nesting. At the end of the season they had to bewail a considerable loss of valuable time, besides being eaten up with wire worm, grubs, caterpillars, etc., as their fields yielded considerably less per acre than on those farms where the birds were allowed to go unmolested. Also, they had very little small fruit, because the bushes were destroyed by the same pest. They, therefore, came to the wise conclusion that they had rather overdone the thing, and that in

future they would destroy no more birds in like manner.

I think this shows what good and useful allies we have in these small birds, and we may think ourselves fortunate that they do us such good service, and require so little payment. With ordinary care on the part of the farmer and horticulturists, the birds may be kept from doing any serious damage to the crops, and if they help themselves rather freely sometimes to the grain and fruit, they have a kind of right to do so, having given us such important help in the preservation of it. "The labourer is worthy of his hire." And, "Behold the fowls of the air; for they sow not, neither do they reap, nor gather into barns, yet your heavenly Father feedeth them." And I therefore think, for my part, that God intended the birds to have a reasonable share of the fruits of the earth as well as ourselves.

Yours, etc.,

FRED. S. COLES.

Hamilton, Ont.

THE ENGLISH SPARROW.

MR EDITOR,—I have taken your monthly journal ever since its first issue, and believe it to be improving with the times. I think it the most valuable of its size published, not that I believe all its teachings, nor do I believe all that is said by sapient members of the F. G. A., especially when they say the English sparrow must go. Poor little emigrant, he is made the scapegoat for nearly all the evils that befall the Dominion. I confess I am greatly astonished at such a resolution from those gentlemen. I could not muster courage to say a word on behalf of the poor sparrow, until the article of Mr. George Mitchell appeared in the April number. He speaks to the point, and *true* every word, with the slight exception that the sparrow will eat oats in Scotland and Ireland; I saw that myself. I should as soon charge the sparrows with causing an earthquake or a blizzard, as a great many things that are laid to their charge. For instance, I saw in a paper a few days ago that they eat bees and feed them to their young, and with dexterity extract the sting, so as not to hurt the young. Now I would like to borrow that man's glasses, for I think a blind man might see with them. They are also charged with driving away all the small birds. This is certainly a very unfair charge, with which they have nothing to do. If these gentlemen would only turn their energies against the small boy, and big boy, too, with their shot guns and shooting matches, leaving nothing with feathers large enough to take sight on; and, added to this, the hordes of half-starved cats, the wonder is there is a bird left alive, great or small.

I also saw them charged with sucking eggs of the robin. I simply place that with the others as lacking proof or reason, not to speak of the fruit bud charges. Now, Mr. Editor, I have bees in my yard, and have had for the last ten or twelve years, with plenty of sparrows, and I never saw a bird of any kind eat bees, excepting the bee martin (or king bird, as it is sometimes called), eat a few, but not enough to be worth notice. Domestic fowl, even, will not eat bees. I once saw a rooster catch one by mistake, and after dancing around for some time, I concluded he would avoid such mistakes in future. I have fruit of different kinds grown for market, and am satisfied none of them are in any way injured by the sparrow. I did see him though, as I was plowing the orchard, follow me at a little distance, and pick up chrysalis of different kinds of moths and beetles, and I should be very sorry to lose their company. It is urged, as an objection, that his song is not very sweet. Quite true. But better that than no song at

all, for he stays to cheer us all the dreary winter. Surely we should not grudge him a little grain from horse droppings, with the addition of a few crumbs from the table cloth. So I sincerely hope those gentlemen will reconsider their decision, and spare the poor little emigrant for the good he does, and lay nothing to his charge but what they actually know he is guilty of.

So, hoping you will excuse me for occupying so much of your valuable space,

I remain, yours,

S. HUNTER,

Hawthorn Place, Scotland.
April 18th, 1884.

TO PROTECT TREES FROM MICE.

As you plead for short articles from your readers bearing on horticulture, allow me to give you my experience of a very simple and effectual way of saving young apple trees from the attacks of mice in winter. I take strips of cedar bark about eighteen inches long, and adjust them round the tree, putting one end on the ground and tying the upper ends with a piece of twine so that the strips lie close to the tree. I just put the strips in my wheelbarrow and go round before the snow falls and attach the *armour* to each tree; and then in spring I go round again, cut the string and gather up the cedar strips, as they will last for years. At first I used bits of shingles, but the bark is better. I rub down my trees with soft soap every spring, applied with the foot of an old worsted sock, and as far up the tree as I can reach. I daresay a paint brush would do, but the other is more effective. I like *The Horticulturist* very much, and hope all good gardeners will help it to the best of their ability.

Yours truly,

AN OLD BACKWOODSMAN.

Fergus, 12th April, 1884.

ANNUAL REPORT.

PINE GROSBEAK.

Thanks to Mr. T. McIlwraith for his instructive letter on the above class of birds. It is quite evident it was wrongly named, though I sent specimens to Toronto for that purpose. At the same time there is no mistake about the havoc they committed on my peach and cherry trees which was witnessed by many others besides myself. We had fully as many specimens of the male as the female birds, and for their beauty and their gentle, confiding habits I would like their society; but I am satisfied any fruit grower whose trees suffered from their ravages as mine did the winter of 1882-3, would have as little compunction destroying them as they would do a robin.

The Annual Report is to hand, a ponderous book of valuable suggestions, which will be worth many times the annual subscription.

J. BISSELL,

Thedford, April 26th, 1884.

NORTH SIMCOE.

MR. EDITOR,—Your *Horticulturist* is a valuable work, and it only wants to be known among the farming community to be properly appreciated. I should feel it a great loss to be deprived of the information it imparts, after enjoying its pages so many years; and the Report, which is full of good news and instruction for the fruit grower. The information cannot be surpassed. I fully enjoy the articles contained in the *Horticulturist*, especially when it comes from the North. The two articles written from North Simcoe were satisfactory, with the exception of that part that referred to the apples, which were denounced by each writer. While our correspondent speaks of the value of one kind of apple too highly, he runs to the extreme in denouncing the others. He speaks of his limited experience of

this part of the country, and says it may be of little value. We do not think so. A limited experience is better than no experience at all. He goes on to say that he has made four mistakes, and that was planting the Northern Spy, Baldwin, R. I. Greening and Rox Russet. And all this mistake, because he thinks the Northern Spy too long in coming into bearing. The Baldwin and the others may not do on some soils, but they will do on others, therefore, we should not condemn them, and say they will not do in this part of the country. Again (No. 2), from North Simcoe, seems to understand something about the good and bad qualities of fruit, and which will succeed in this part, and so on. But we have such varieties of soil and location, that what will do on one farm will not do on another. And yet, when we come to examine in the aggregate, we find that nearly all the winter and autumn fruits do well; and also many of our summer kinds do excellent, yielding good, clean fruit, and unequalled in quality and size.

I wish, Sir, to put things right, if possible. I believe these kinds of discussions are for good. To be brief and make a long story short, I have been trying to raise apples these fifty-two years in this part of the country. I have made many mistakes, and yet have succeeded to a limited extent. In speaking of apples, I have over twenty trees—trees have been out twenty-four years—of Northern Spy in my orchard, and they are as healthy as any trees I have, and produce as good crops, and as fine fruit as any other kinds, and much more saleable in the spring. They are long in bearing, but they get to be large trees before they bear, and then they require strong soil. Plenty of ashes and manure, and then you will have quality and quantity that will give you satisfaction for years. The Northern Spy will grow in the North of Simcoe. The Baldwin I have top grafted, and it has done well. The R. I. Greening does not do quite so well, although I have had some good crops. I cannot condemn it. The Russets of all kinds have done fairly well. Our soil is clay, sandy loam, and strong loam and gravel, all within five acres. But, Sir, the great secret of success is to attend to your trees, get good stock, plant it right, and attend to it. Keep it clean, and feed the trees well, if you want fruit, and then you will have pleasure in the labor of your hands. But, above all, let all the farmers that have only a few trees, become readers of the *Horticulturist*, and members of the Fruit Growers' Association, and they will never repent it.

C. H.

STRAWBERRIES.

Mr. EDITOR,—I sent you a statement last year of my success with the Wilson Strawberry the year before, and the plan of treatment.

The same course was followed last season with still greater success. Four hundred baskets were taken from less than five rods of ground. I am pursuing the same course with them this year and hope for success, but do not expect to outdo last year.

J. B. AYLWORTH.

Collingwood.

THE AMERICAN ASSOCIATION of Nurserymen, Florists and Seedsmen hold their next annual meeting in the City of Chicago, on the 18th of June, continuing three days. Their headquarters will be at the Sherman House. The objects of this Association are the cultivation of personal acquaintance, exchange of products, perfection of methods of culture, packing, etc.

QUESTION DRAWER.

To the Editor of the Canadian Horticulturist.

Would you, or some of your correspondents who can speak from experience, kindly inform me how best to apply copperas to apple trees or strawberry beds. I would suggest to any of your readers who would like to grow English gooseberries to plant in clay soil, and scatter a shovelful of wood ashes under each bush. Scatter a gallon of salt under each good sized plum tree in the spring. If you want good apples, sow two gallons wood ashes, one gallon of lime, one gallon of charcoal, one quart of salt, one quart of superphosphate, under each good sized tree, every second year; also a wheelbarrow load of good barn yard manure. Supply all the ingredients the tree requires, and there will not be much disease.

I read with pleasure the reports of your Association, but I think your system might be improved. Suppose, for instance, you are discussing the question, "Is the Golden Russet a Profitable Apple to Grow?" Let those who think it is sit on the right hand of the President. Those who think it is not on the left. Those who have never tried the fruit sit at the end. The President has his list of questions prepared. I shall suggest a few. How old are your Golden Russet? What is the average yield per tree per year? What kind of soil do they grow on? Are they protected from the wind? How? Are they planted in sod or cultivated? What kind of manure do you use? How much do you apply, and how often? How do you prune your trees, and at what season? In what County do you live? Having questioned in this manner all who succeed with the Golden Russet, pick out five or six of the most successful, and compare their answers, and then draw up your report. The best Golden Russets are grown in such a County, on such and such soil. Manured as follows. Protected by a belt of evergreens or not; well cultivated or in sod. The President would then proceed to question those who did not consider the Golden Russet a profitable fruit to grow. Perhaps it would be found that the soil was not suitable. The land never manured. The grass allowed to grow too close to the trees. The grain sowed under the trees. The President might again sum up the cause of the failures as gathered from the evidence before him. When I see all the farmers in the country planting out orchards, I begin to fear the business will be overdone; but I know that next spring, in their greed, they will plant grain right up to the trees, and that will kill half of them, and the next dry summer they will turn in the cows to finish them off. Take courage.

Yours, R. Lewis.

THE RED SPIDER.

To the Editor of the Canadian Horticulturist.

Dear Sir,—In reference to an article (a very correct one, and very valuable to all who cultivate plants) in the April number of the *Horticulturist* on the "Red Spider," I may state that in my experience the simplest and most effective way of ridding potted plants of these pests, is in rainy weather to take the plants from the house or conservatory, and lay the pots on the sides on the lawn, or on any plot of grass, where the plants will not be splashed with the soil. If the rain falls freely upon the under side of the leaves for several hours, the Red Spider will entirely disappear. Repeat this occasionally when the weather is suitable, so as to destroy any spiders that may hatch out from eggs previously deposited. This will be found a most effective remedy at seasons when the weather will allow of tender plants being removed to the open air. F. Mitchell.

Innerkip, 10th May, 1884.

A FEW THOUGHTS.

DEAR SIR,—I take this opportunity of sending a few thoughts to you. I am greatly pleased with your valuable journal on fruit growing. I commenced fruit growing some thirty years ago. I commenced with one tree, which was seedling or natural fruit. I bought seven trees from Mr. Hubbard, Guelph, being greatly opposed to agents going, selling worthless trees from the States and elsewhere I purchased fifty trees from Mr. McNaughton, which proved to be Culvers, very fine ones. The next purchase, I presume, was from your father, old Dr. Beadle, of St. Catharines, being fifty-eight apple trees, one pear, and one plum—fifty of which grew. My neighbors bought a lot—all of which died. The collection comprised Snow Apple, King of Tompkins, Saxon, Gloria Mundi, Talman Sweet, Rambo, Gravenstein, Wabash Harvest, Golden Pippin, Pound Pippin, Green Pippin, and Greening. The Greening proved worthless, being destroyed with Codlin Moth. We suceeded in catching him by rapping an old rag round the body of the tree. The Snow Apple is literally useless, with scabs and small; also some blight came over the trees. The plum was killed with black knot. The pear got destroyed by accident.

Mr. Editor, I am very fond of trying experiments in grafting. I had a blue plum tree entirely covered with black knot, about three inches across. I took my saw, saying to myself, I will cut you off and graft you, if you die it is no matter. I put in two grafts of the Lombard variety, they both grew beautifully and bore bushels of plums twenty years, and not a sign of black knot. I grafted a number of apple trees last year, none of which grew. I attributed my failure to cold weather. I also tried a rose bush, but it failed to grow. I had a prairie change its color from a dark-black to a beautiful pink, and from single to double. I attributed this to the action of the bees carrying the inoculation from the one to the other. I purchased a number of fine pear trees to experiment on, Mr. Editor being too late to let us know he had such valuable ones for sale, I being partial to his nursery, the other trees having done so well. You sent us a fine picture of a gooseberry found in a hickory stump, but you did not give the price of it, nor where it could be got. A kind friend sent me some grapes to the express office the other day, but did not give their names. I also expected one from the Fruit Growers' Association, but it did not come.

Now, in conclusion, Mr. Editor, we wish you to be long spared to occupy the editorial chair. We will not complain like that old crabbed Scotchman, telling you you were a paid functionary, and putting fine pictures in your journal to attract attention. I think they look beautiful, and make quite an attraction in this fast age. I was very highly entertained by Mr. Charles Arnold, of Paris, while passing there on business one day. He showed me his beautiful roses, grapes, and his experiments on wheat by hybridizing.

I remain, &c.,

JOHN LAING.

Puslinch, Corwhin P. O., Ont.

BEST DESSERT APPLES.

I have recently assisted to award the prizes for fruit at two large autumn shows, a circumstance which has given me an opportunity of testing the quality of various varieties. In each instance a class was provided for a single dish of ripe apples, and we were supposed to taste each dish. At one place there were forty exhibits, at the other about thirty, and though it might appear somewhat of a lottery to judge so many by taste, I nevertheless think we were

right in giving the preference in both instances to good samples of Cox's Orange Pippin. The next best were Blenheim Orange and Ribston Pippin. Of the three sorts Cox's is decidedly the most generally profitable. It is not a very vigorous grower, seldom fails to yield a crop of medium sized roundish ovate fruit, fairly well coloured, and when ripe, say any time from October to January, seldom failing to please the most fastidious. We have very few apples which possess so many excellent qualities, and room should be found for one or more trees in the smallest of fruit growing gardens. Blenheim Orange is another invaluable variety, being surpassed by none for culinary purposes, and for dessert it is equally well adapted. In our case the largest fruits are sent to the kitchen, while the highly coloured medium sized ones are reserved for dessert. Unfortunately, being a very vigorous grower, young pruned trees are not fruitful; it is when large standards are formed that heavy crops are the result. It is really the most valuable market apple we have, and one which will command a good price when other sorts will not pay for carriage and salesmen's commission. The shape of the fruit as well as the colour varies considerably, the result probably of employing different stocks rather than the effect of soil. Its season is a long one, frequently extending from November to the end of January. With market growers it is essentially a Christmas apple. Ribston Pippin is perhaps the best known of the selected trio.—*The Garden.*

Note by the Editor.—The above extract will give our readers a valuable hint as to the varieties of apples that are most esteemed in England and what to grow for that market. All of them can be grown here, and when grown here are both more highly coloured and more highly flavored than when grown in England.

LONGFIELD APPLE.

This Russian apple is said to have been raised from seed by an Englishman residing on the Volga. Mr. Chas. Gibb in his valuable paper on Russian fruits, which will be found in the report of the Fruit Growers' Association for 1883, says that it has been imported true to name, having been received from Moscow by Prof. Budd of the Iowa Agricultural College, and having also been received by the United States Department of Agriculture by the numbers 161 and 587. He says that it is a hardy tree, but not as hardy as the Duchess of Oldenburgh; that the fruit is of fine quality and of a bright attractive color, ripening in early winter, and of medium or below medium size. Mr. Tuttle, of Wisconsin, says that on account of its regular annual bearing, good quality and attractive color, he would not hesitate to plant it largely for market purposes. Mr. D. H. Carpenter of Wisconsin, says that the season is from January to June, which would seem to be much later than the time of ripening indicated by Mr. Gibb; that the fruit measures from three to three and a half inches in diameter, in form round, ribbed; color light yellow in the shade with a dark red cheek on the exposed side; skin thin; flesh very white, tender, rich, mild sub-acid; quality delicious; the best of all the Russian varieties that he has tasted, and in his opinion will compare favorably in quality with the best eastern varieties. The tree, he says, is vigorous, healthy, hardy, and enormously productive, and will, in his opinion, soon come into general use, being when everything is taken into consideration decidedly the best winter

apple they have in Wisconsin. This is certainly great praise. We had supposed that the Wealthy was the best winter apple yet grown in Wisconsin, and as hardy as the Duchess of Oldenburgh.

ASPARAGUS.

At a recent meeting of the Massachusetts Horticultural Society, Mr. William H. Hunt, of Concord, said that Asparagus is grown very extensively at Concord, some growers having as much as eight or ten acres. Only one crop can be got in a season, and near Boston, where land is more valuable, it must be devoted to such plants as will afford two crops. At Concord land is cheaper, and there is much light soil, unsuitable for grass, where asparagus can be profitably grown. The rent of the land is not counted at all. If it is possible to get the plough down deep enough, there is no necessity for using the spade. The rows are planted four feet apart, and the plants from fifteen inches to two feet apart in the row. If a crop is wanted quickly it is planted closer, but the bed does not last so long. There is no insect enemy of any account; the speaker has never seen the asparagus beetle, which is troublesome in some places. The crop is never very profitable, but on the other hand, failure is never known. In a warm season the time for cutting will be shorter than in a cooler one. The receipts are three hundred dollars or more per acre, somewhat in accordance with the amount of manure applied, which is generally eight or ten cords. Some fertilizers are used; nitrate of soda or phosphates, or a mixture of them, may be applied one year in three. There is a difference of opinion in regard to the use of salt; the speaker thought that the same money put into manure would do more good than if expended for salt. He had used saltpetre waste from a powder factory, which contained a small amount of nitrogen. He did not know why asparagus could not be improved by selection, and believed it would be just as advantageous as with any crop. One grower sorts his asparagus into two grades; the speaker could not say that the larger is any better than the smaller, but it brings a higher price.

FRUIT PROSPECTS IN CENTRAL ILLINOIS.

Apple trees that were in good condition in the fall, have passed through the late cold snap safely, and are well supplied with fruit buds for next season's crop; but those that were injured a year ago, and only partly recovered last summer, now give evidence of being so badly injured as to unfit them for any purpose but the wood pile.

Pear trees are apparently unhurt, and promise more than an average crop of fruit.

Peach buds are, of course, all killed, and the effect of two such terribly cold winters in succession will be fatal to most of the trees.

The few cherry trees that survived last winter's freeze were in poor condition to endure the ordeal of the present winter, and very few of them will ever leave out again. We shall have no fruit.

Black raspberries are all killed to the snow line, and we shall have no fruit to speak of. Turner is safe, and will yield the usual crop.

Lawton and Kittatinny blackberries are in the same condition as raspberries, and for the first time in my knowledge Snyder is somewhat injured in the bud.

Strawberries, having been covered with snow during the severe weather, are, of course, safe.—*Farmer and Fruit Grower.*

WILSON JUNIOR BLACKBERRY.

Judge William Parry, originator, writes thus in regard to his promising seedling :—

"Desirous to perpetuate the good qualities, large size, and earliness of Wilson Early, I selected berries which measured three inches around in 1875. Reasoning from analogy and following the practice of the most careful breeders, who select the best animals, having the greatest number of good points, to breed from, I selected the Wilson Early as the standard of excellence in blackberries, having the greatest number of good points to be transmitted to its offspring, and planted seed of the largest berries from the thriftiest and best plants, in preference to procuring accidental plants, which had no pedigree or back record to recommend them.

Out of hundreds of seedlings thus grown from the Wilson Early we selected, as the most desirable to propagate the one called Wilson Junior which appeared to combine all the good qualities of the parent with some important additions. The fruit is large and early, is luscious and sweet as soon as black, holds its bright color and bears carriage well.

The plants are hardy and productive; canes round, long, slender, entirely free from rust; bend over and strike root at the tips; sends up but few suckers; spines small and recurved; foliage large and thumb or mitten-shaped, and generally has about the same appearance as its parent the Wilson Early), and is substantially a reproduction of the excellent qualities of that good old variety, in a new berry, ripening earlier, more productive, and more than a quarter of a century younger than the Old Wilson, from which it grew.

For several years the superiority of Wilson, Jun., over its parent, the Wilson Early, growing by the side of each other, and other varieties near by, was manifest; and last year, 1882, in a thirty acre field of blackberries, where all had an equal chance, seven rows of Wilson, Jun., yielded twenty-four quarts of berries per row at the first picking, being more than all others together in the field. At the second time the Wilson, Jun., yielded fifty quarts per row being more than the Wilson Early, or any other variety in the field, and continued to pick as well during the season. A new seedling blackberry of such excellence, combining and perpetuating the good qualities of its parent (the Wilson Early) with some improvement—earliness, productiveness, and evenness of ripening—is ample reward for the care and attention required for its selection and propagation."—*Farm and Garden.*

FREESIAS

In the zealous search for novelties adapted to winter-forcing and to supply the insatiable demand for cut flowers, many hitherto neglected, though beautiful plants, have lately come to notoriety. Among those recently brought to notice, none are more beautiful nor deserving more attention than the Freesias.

FREESIA.

The plant grows from a small bulb to a height of about fifteen inches, and produces a great quantity of deliciously fragrant, tube-shaped flowers, borne in peculiar, one-sided racemes. The color of the flowers of *F. refracta alba*, the species represented in our illustration, is pure white spotted with yellow on the lower petals.

Their culture is very simple. In September or October they should be planted in ordinary potting soil, such as is used for Holland-bulbs, about six bulbs in a six-inch pot. They have then to be thoroughly watered and kept

cool and only moderately moist until growth commences, when more water should be given, and the pots removed to a warmer place. The succeeding treatment is exactly like that given to Hyacinths or Tulips forced in the house. Those planted in September may be had in bloom in January. After flowering, water should be withheld and the bulbs dried off, to be started again the following autumn.

For florists' work these flowers are remarkably well adapted, not only on account of their rare beauty and delightful fragrance, but also for their unusual keeping quality, on the plant as well as after being cut.

Decidedly this is one of the most deliciously perfumed flowers cultivated, and one or two plants of it in bloom will scent a whole parlor for which it will make a charming ornament. It will take the place which the Tuberose has in summer. The flowers come in clusters of eight or ten on a spike, seldom opening all at once, and last for quite a while. It is said to be very easily grown if planted in pots in October in rather sandy soil, and treated the same as Hyacinths or Tulips. As the bulbs are cheap we would recommend to give them a trial.—*Farm and Garden.*

FORESTRY.

TREE PLANTING.

Mr. Phipps is busy working up his report on forestry, and it is to be hoped that the subject will be so agitated this winter, that next spring a boom in tree-planting will break out all over the province. In France they understand these things better, and 9,000 miles of the public roads are planted with lines of trees, forming beautiful avenues. Step across the border into New York State and you will find the roads lined with trees, no hideous fences, and every little hamlet, spruce and clean, with its village green and liberty pole. Now, how does our side of the border look? Why, it looks like the graveyard of Hope, the burial place of all public spirit, and nine-tenths of the villages look as if they were the last place made, and the Creator having run out of material left the job unfinished. The province is old enough to show some taste, and it is high time our people shook themselves out of their torpor, and imbibed a little of the public spirit of our American neighbours.—*Bobcageon Independent.*

COLUMBINES.

With the introduction of the newer Western species of Aquilegia, which is the botanical name of the genus, these beautiful perennial plants have received renewed attention. All the species found in cultivation are worthy a place in the herbaceous border. In addition to these, hybridizers have created so many hybrid sand crosses as to almost obliterate some specific distinctions. The various shades of violet, red, and yellow are the predominant colours of their flowers, and a white Columbine of good shape and size has long been sought for. Such an one has recently been discovered in the Rocky Mountains, and is now brought to notice under the name *Aquilegia cærulea Jamesii.* The flowers are pure white, very large and of remarkably graceful habit. It is easily grown from seed, and if sown early in pots in the house or in a hot-bed, flowering plants may be obtained the first year. Sown in spring in the open ground it will bloom the following season. If the plants come up too thick, they have, of course, to be thinned out, and the young plants may be transplanted. A moderately rich, rather dry soil suits them best. They are perfectly hardy, yet they are materially benefited by a light covering of leaves during winter. — *American Garden.*

HARDY PEARS.

Prof. Budd, of the Iowa Agricultural College, who lately visited Russia, writes thus to the *Prairie Farmer:*

The pear is not native to this continent and the race with which we have measurably failed is native to the west coast of Europe, where the climate is modified by the Gulf stream precisely as is the west coast of the United States.

In Western Poland the Flemish Beauty is much grown under the name of Belle of Flanders, with many other varieties of this grade of hardiness which we have not yet tried.

In Eastern Poland, and over the great plain north of the Carpathians to Kiev, in Russia, and Proskau, in Silesia, the Flemish Beauty utterly fails, but many varieties of excellent pears are grown that are hardier in tree, and with foliage that can bear greater extremes of summer heat and aridity and moisture of air. One of the least hardy of this family is the Bezi de la Motte, which has come to us as a stray and is worthy of trial on favourable soils south of the 42nd parallel.

Still east and north of Kiev, to Koursk, in Russia, we find the wild pear coming in as a forest tree, and we find in orchard many varieties of the Bergamot and Grucha type of tree and fruit not before seen, excepting the Red Bergamot and Bessemianka which were common with peasants in Eastern Poland.

East and north of Koursk on the interminable black prairie to Tula, Oriel, and Veronesh, we still find healthy and fruitful pear trees, showing in tree a cross with the indigenous pears, but as commonly grown by the peasants they run more to varieties for culinary use than dessert, yet on the grounds of large proprietors, and in the experimental orchards of the pomological schools, we found from fair to good dessert pears growing on trees showing little if any signs of injury from extremes of summer and winter temperature, more severe than we ever experience in Central Illinois or Iowa.

Still east and north, on the west bank of the Volga, at Simbrisk, we saw more cooking pears going to waste than we had seen during a life-time at all other points Yet as a rule the pears grown here are on the seedlings and the surplus going to waste was too low in grade for sending to a distant market. Yet some of the seedlings and all of the grafted varieties found on the grounds of systematic cultivators and amateurs, we would call very valuable for either culinary or dessert use, yet this point is on the 54th parallel of north latitude, and perhaps 1,200 miles inland from the Baltic. The prevailing southeast wind at this point is hotter and drier than we ever know, and 45 deg. below in winter, without snow, is by no means unusual.

North of this point, and six hundred miles east of Moscow, we still found the cooking pears hardy enough to permit their use for street trees, and some of the Bergamots and Gruchas were better than some of the California pears I have tried to eat. At the extreme northern point, where the pear may be profitably grown on the upper Volga, the annual rainfall is as light as in Western Dakota, and the winters are too severe for any of the Borovinca race of apples to which our Duchess belongs, and our Box Elder freezes down each winter in the botanical garden at Kazan.

Agricultural Review, a magazine of American industries, is published monthly at $3 a year. 32 Park Row, New York; 40 Corcoran Building, Washington, D. C.; and corner Gravier and Carondelet Streets, New Orleans.

HARDY BLACKBERRIES.

In reply to your enquiry as to how Snyder, Taylor and Wallace blackberries have stood the cold of January 5th—when the mercury here indicated 25° below zero—it gives me pleasure to say that at least two of them, Snyder and Wallace, are uninjured, and promise a full crop during the coming season. Taylor's Prolific is somewhat injured, but will likely produce half a crop. Early Harvest is killed to the snow line, and Western Triumph and Kittatinny have fared but little better. Stone's Hardy promises to be as hardy as Snyder. About half the Early Richmond cherry buds are killed; peach buds all dead; Concord, Clinton and Worden grapes in good condition; apples ditto; black raspberries much injured; reds, like Thwack, Turner and Cuthbert, alive to the tips; strawberries in excellent condition.—*Cor. Farmer and Fruit Grower.*

THE FAMEUSE OR SNOW APPLE.

The Fameuse is an apple of Lower Canada, and grows in great perfection upon the Island of Montreal in and around the city and vicinity. It is the favorite dessert apple of the Montreal people, and the market price is more often above than below $3 per barrel. There the Fameuse thrives in perfection, being larger and fairer, and the trees more long lived than anywhere else. Part of this is due to the soil, which is deep and rich yet not very heavy. The Fameuse cannot be successfully grown on a strong clay soil. It likes limestone, and the only place where it does nearly as well as at Montreal is on the islands and shores of Lake Champlain, which is a limestone basin. But as the soil is not so deep and moist there as on the St. Lawrence, the fruit does not grow so large. But at its best the Fameuse can only be called a medium apple in size, and usually only a small medium.

Where the Fameuse is not perfectly at home it begins to show its faults as a market apple. It becomes too small and begins to be scabby. This is the trouble with us here. I have about sixty bearing trees, and usually only from one-half to two-thirds of the crop is marketable. But as the Fameuse is a prolific bearer and the fruit is here very much liked and greatly in demand, it still affords a profit.—Dr. Hoskins in *The Home Farm.*

WHORTLEBERRIES.

I have been experimenting with the whortleberry now for five years. I find them to grow finely under cultivation, and there is no discount on their bearing qualities. It takes them long to get well established in their new quarters (some three years or more), but after this they begin to bear profusely and will increase every year for a lifetime, I suppose, and every year the crop is heavier and the berries are much larger than in their native wild state.

The stools keep spreading on all sides all the time from shoots, like the hazel, and when they get too many these can be removed for starting new plantings. There is no difficulty in getting them to grow, if done properly; that is, take up as much of the old roots as possible when removed from the woods, and they should not be exposed long to the wind or sunshine to dry out the roots. I find this to be the great trouble in transplanting them from the woods—suffering the roots to get dry. I have some that I got from Michigan that bore a few berries last summer, the second season after setting; these were nice large berries but a great deal softer than our native kinds. We have two distinct kinds here. One is a tall grower, with red twigs and oblong fruit, and very blue; the other a low bush or

shrub, grows from one to two feet high, the twigs about the color of the ozier willow, fruit more black and cherry shaped, generally larger than the blue or oblong. The leaves are also different. I find the oblong to differ in flavor from different patches. Some are a good deal sweeter than others, like blackberries from different localities.

I have never tried to manure them as yet, in fact I don't think it necessary as they grow on very poor land among the rocks and gravel, and sometimes in a bed of sand. I notice those that grow in sand to be the most thrifty bushes. Old beds of forest leaves seem to suit them as well. This is all the manure I used on mine. I notice that the older they are the taller the shoots will grow in one season. I have now no doubt of making a success of them. - -*Cor. Fruit Recorder.*

GRAPES IN THE UNITED STATES.

The *Florida Dispatch* says:—"From statistics recently published by the Department of Agriculture at Washington, we learn that there are now 185,583 acres of grapes grown in the United States. Wine from the product of these vines is made to the amount of 24,453,857 gallons, having a market value of $13,436,174.87. California of course leads, having one-sixth of the area, yielding nearly two-thirds of the wine. New York comes next, having 12,643 acres, though but little is made into wine; the grapes find ready sale in the market; only 584,148 gallons are made. Rhode Island only returns fifty-five acres; while Illinois, from 3,810 acres, makes over a million gallons of wine. Missouri, Ohio, Georgia, and New Mexico are leading wine-making sections. Colorado cuts no figure at all in the report, but the day is coming when grape culture will be one of their prominent industries.

THE IONA GRAPE.

This excellent grape seems to be giving good results in California. It will not ripen well in the colder portions of Ontario. The most beautiful grape of the season, for color, taste, grace of cluster, and rich ripening quality is the Iona. It is a first cousin to the Catawba with an Isabella spice. It is a glowing, translucent garnet, with a purplish bloom, and ought to make a favorite table grape, as, framed in its own olive-green leaves and tendrils, with yellow pears for contrast, no prettier centre-piece for a dainty lunch or dinner-table could be devised. Only a few of our vintagers as yet have found out how well this grape does here, but those few are making it a specialty."—*Santa Barbara Press.*

BOOKS RECEIVED, ETC.

Catalogue of Select Roses, Ellwanger and Barry, Rochester, N. Y.

Supplementary List of novelties and specialties for sale by Ellwanger & Barry.

The Thirteenth Annual Report of the Michigan State Horticultural Society, full, as it always is, of valuable information.

Science, a weekly journal published by the Science Company at $5 a year. No. 4 Bond Street, New York. Devoted to the interests of science.

Prize List of the World's Industrial Exposition to be held all next winter in New Orleans. The prizes for fruits are very liberal, collections of apples running from $15 to $200. Cannot the fruit growers of Ontario take some of these prizes. The Editor of the *Canadian Horticulturist* will send a copy of the prize list to any one who applies therefor.

THE MILKING HOUR.

You good old Boss, stand quietly now,
And don't be turning your head this way ;
You're looking for Donald, it's plain to see,
But he won't be here to-day.
Nobody came with me, dear old Boss,
Not even to carry my pail ; for, you see,
Donald's gone whistling down the lane,
And Donald is vexed with me.

And all because of a trifling thing:
He asked me a question, and I said "Nay."
I never dreamed that he would not guess
It was only a woman's way.
I wonder if Donald has ever learned
The motto of "Try and try again."
I think, if he had, it might have been
He had not learned in vain.

And there needn't have stretched between us two,
On this fair evening, the meadow wide,
And *I* needn't have milked alone to-night,
With nobody at my side.
What was it he said to me yester eve,
Something about—about my eyes?
It's strange how clever that Donald can be ;
That is, whenever he tries.

Now, Bossy, old cow, you musn't tell
That I've cried a little while milking you ;
For, don't you see? it is nothing to me
What Donald may choose to do.
If *he* choose to go whistling down the lane,
I chose to sing gayly coming here.
But it's lonely without him, after all ;
Now isn't it, Bossy dear?

I—hark! who's that? Oh, Donald, it's you!
Did you speak?—excuse me—what did you say?
"May you carry my pail?" Well, yes: at least,
I suppose, if you try, you may.
But, Donald, if I had answered No,
Do you think it would have occurred to you
Not to be vexed at a woman's way,
But to try what coaxing would do?

M. D. Brine, in *Harper's Weekly.*

Ligustrum Fortunei.—This Privet is really grand when in a thriving condition ; and as to soil or situation, it seems, like the common kind, to be one of the most accommodating of shrubs. Its leaves are arranged more regularly along the shoots than in the other species, while the smaller branches push forth almost horizontally from the main stems The white, feathery flowers are very sweet scented—too much so, in fact, for use in a cut state. Another name by which this Privet is often known is Ligustrum sinense.—*The Garden.*

The Flowers of Burns.—No evidence is needed to show that Burns was fond of flowers ; his pathetic lament for the Daisy which fell under his ploughshare is ample proof of that. Carlyle, however, in his essay on the peasant poet, quotes one of his letters in which he thus speaks of his favorite blossoms : "I have some favorite flowers, in spring," he says, "among which are the mountain Daisy, the Harebell, the Foxglove, the wild Brier Rose, the budding Birch, and the hoary Hawthorn, that I view and hang over with particular delight" Tell me, my friend, to what can this be owing ; are we a piece of machinery, which, like the Æolian harp, passive takes the impression of the passing accident ? or do these workings argue something within us above the trodden clod ? Burns' respect and love of the "wee crimson tipit flower" was, indeed, only exceeded by the devotion which Chaucer paid to it, as to all that was bright and sparkling among field blossoms.

Imports of Foreign Fruit.—The *Journal of Commerce* has published a full report of the imports of foreign fruits into the port of New-York. By it we learn that there were brought 953,837 cases and boxes of oranges from Sicily, Italy and Spain, containing 244,270,290 oranges ; from the West Indies, Central and South America, 31,160,584 oranges, and from Florida 200,000 barrels and boxes The total value was $3,853,007. Of those coming from the Mediterranean, 33 per cent. were spoiled, and of those from the West Indies, 36 per cent. were lost. From the Mediterranean come 1,052,874 boxes containing 347,448,420 lemons, in which there was a loss of 20 per cent. ; also 108, 797 barrels, and 10,667 half-barrels of grapes, valued at $386,392. The loss was 25 per cent., on the passage From the West Indies, Central and South America, there were received 2,555,320 pine apples, the loss on which was 20 per cent. ; 1,416, 492 bunches of bananas, loss was 16 per cent., and 15,041,507 cocoanuts, of which the loss was 8 per cent. Beside these fruits, there were received 1,987 barrels of limes, with a loss of 35 per cent. ; 1,270 barrels of shaddocks, loss 10 per cent. ; 74,150 mangoes, loss 50 per cent. ; 25,600 grape fruits, loss 10 per cent., and 15,115 plantains, loss 15 per cent. Cocoanuts and Florida fruits came in duty free ; the total value of dutiable fruits was $5,530, 704, and the total duties received were $951,924 45.

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPP, CLARK & CO. COLBORNE STREET TORONTO.

JACKMAN'S CLEMATIS.

PAINTED FOR THE CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

VOL. VII.] JULY, 1884. [No. 7.

THE CLEMATIS.

Our readers are doubtless already acquainted with the beautiful Clematis Jackmanni, and if so they will be much pleased to receive a colored plate of it, such as the one that is presented to them in this number. Of all the seedlings that have been raised by hybridizers of this flower we know of none so popular as the one that is here represented. And it deserves its popularity. It has a good constitution, consequently it does not require to be constantly nursed to keep it alive. It is naturally a vigorous grower, having an excellent appetite, hence, if sufficiently supplied with food it will take care of itself. It is also a profuse bloomer. The flowers too are large and showy, and being produced on the wood of the current season's growth, it matters not if the growth of the last season is killed to the ground.

It was about the year 1868 that our Jackman's Clematis was introduced to the attention of florists. Years before, Mr. Robert Fortune had sent to England from China the mauve colored Clematis Lanuginosa. It made quite a sensation when it first flowered in England, but although it produced flowers of noble size, measuring from five to seven inches in diameter, yet these were put forth so sparingly, that cultivators soon tired of growing a plant that responded so charily to their most assiduous attentions. Besides it was not sufficiently hardy for general open air cultivation, and in consequence of these defects it had fallen into neglect.

Clematis viticella, introduced from Spain in 1569, had been long in cultivation, and although its flowers were small in comparison with those of C. lanuginosa, yet its constitutional vigor was all that could be desired. Happily it occurred to Mr. Jackman to try the experiment of crossing these two species. He chose a variety of C. viticella which had dark reddish purple flowers, and with the pollen from these flowers hybridized the large flowering C. lanuginosa. In this manner he produced a quantity of seedlings, from which he selected a few having the vigorous hardy wiry free flowering habit of C. viticella with the large flower of C. lanuginosa. Of these C. Jackmanni is the most valuable that has come under the writer's notice, and although, since that time, a great many hybrid seedlings have

been introduced, we doubt whether any one of them all is equal in all respects to the Jackmanni.

It is not only as climbing plants that these large flowering Clematis are useful, but there are few things that will equal them as bedding plants. It is said that Mr. Jackman was indebted to a severe wind storm that prostrated a number of poles laden with these Clematis for the suggestion of using them for bedding purposes. For some reason, perhaps press of work, these Clematis covered poles were suffered to remain for some time on the ground, and the vines formed such a bed of foliage, gemmed with brilliant flowers, that Mr. Jackman determined to try the experiment of planting some in a bed, pegging them down as they grew, so that they should not be swept about by the wind. The experiment was highly successful. Different shades of color were planted in some of the beds, their growths pegged down one over the other so that they were completely interlaced, and in the summer the bed was an even sheet of flowers of varying hues that was exceedingly attractive. Other beds were planted with only one variety, these were edged with Cineraria maritima or some other suitable subject to give a marginal color that would bring out the beauty of the gorgeous mass of flowers within the bordering. These Clematis are not given to producing any superabundance of wood, each branch gives forth a mass of bloom, so that the bed is just radiant with purple and violet.

If any of our readers are desirous of trying a bed of the large flowering Clematis, we would suggest that trial be first made by planting only C. Jackmanni in a bed of such size as may be convenient, setting the plants about eighteen inches apart each way, and bordering the bed with Golden Pyrethrum or Cerastium tomentosum. Let the bed be made very rich with well decayed manure, and the growing shoots pegged down often enough to prevent the wind from swaying them about. When the weather becomes very dry water copiously at evening, and if the growth be not sufficiently vigorous, stimulate with manure water. When the bloom begins to show symptoms of decline, prune back the shoots somewhat and induce a fresh start, keeping up sufficient moisture by watering, if needed, and you will be rewarded by continuous bloom until approaching winter lays his frosty finger on pasture and garden.

But with all their gorgeousness of display these showy varieties are scentless, and there may be readers of the *Canadian Horticulturist* who would like to add to their collection of Clematis the sweet-scented C. flammula. The late A. J. Downing, in speaking of this variety, says, it is "the very type of delicacy and grace, whose flowers are broidered like pale stars over the whole vine in midsummer, and whose perfume is the most spiritual, impalpable, and yet far spreading of all vegetable odors."

Narcissus.—At a recent exhibition of the New York Horticultural Society last month one hundred and sixteen varieties of narcissus were on exhibition. This is a much neglected flower, yet a beautiful and attractive one, and valuable for forcing for in-door decoration. This is the largest display of the kind ever made in America.

POSTAGE ON PLANTS TO THE UNITED STATES.

We clip the following *scold* from the *Fruit Recorder* :

When will our Government remedy the unjust and discriminate law of plant postage between the United States and Canada? They can send plants up to 4 pounds all over this country at rate of half a cent per ounce, while we have to pay *ten cents* on every package sent over the line, and no package can weigh *over eight* ounces, that goes to Canada. The Government should have this injustice towards a large class of nurserymen in this country remedied."

Just so, friend Purdy, you do live under the most unjust government in the world ! ! It is a shame that in this enlightened age citzens of the United States cannot send plants to any part of that great country by mail for half a cent an ounce up to four pounds. The Canadian lives under a much more liberal government (!) for he can send them to all parts of Canada at that rate. But hold, friend Purdy, are you not grieving over imaginary wrongs? You seem to think that Canadians can send plants at half a cent per ounce to any part of the United States. Let us read from the *Canadian Official Postal Guide*: "There is no provision for the transmission of seeds and bulbs between Canada and the United states by mail except when sent as samples, the limit of weight for each packet is *eight ounces*, the rate *ten cents*." No, friend Purdy, the injustice of your government does not consist in allowing us to send our plants into your country at a less postal rate than you can send them into ours, but in not treating you as liberally in this matter within your own borders as our government treats us. And scolding won't mend the matter. Your only remedy is to leave that land of benighted and unjust law, and come under our better, more liberal and more just government.

FLORIDA IN WINTER.

(Continued from page 125.)

The sail up the river St. Johns from Palatka is full of interest to the stranger. The scene is ever shifting. At times the river is very narrow and tortuous, so that in half an hour's sail the steamer has returned to within a few rods of her former place ; then suddenly the river spreads out into a small lake of shallow water several miles in expanse. In some parts the country seems to be a flat, low prairie, covered with coarse grasses ; soon this feature is changed, and we pass through heavily wooded rolling land, where we frequently see groves of orange trees, some already bearing fruit and some but recently planted. It was during this trip from Palatka to Enterprise that we saw more of the animated nature of this peculiar country than we had met before. Alligators of varying sizes were basking on the banks, which, as the steamer approached, would crawl off and hide themselves in the water. White cranes were frequently seen flying about or standing upon some tree overhanging the river. Blue heron, seen the dead leaf stalks not yet fallen, giving a very shaggy appearance to many of these, to us, singular trees.

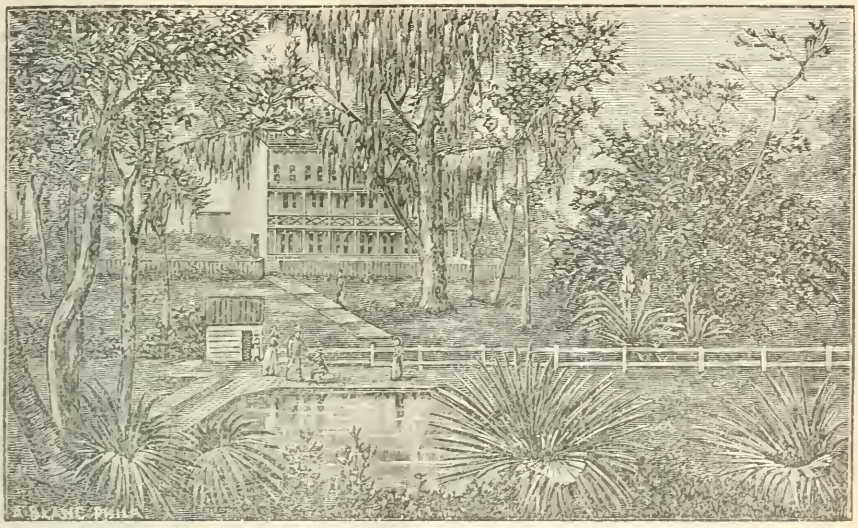
At Enterprise we found there was an orange grove attached to the hotel where the guests could go and help themselves to oranges as freely as they chose. You will not be surprised to learn that it was well patronized. We spent a day here in strolling about, sauntering into the woods near by, and studying the strange vegetation, and visiting also some of the adjacent garking-fishers, water turkeys, grey-headed eagles, hawks, and numerous flocks of blackbirds, gave interest and life to the scene. Ducks of several kinds and water-hens were swimming upon the water. In the low land the cypress, water-oak and tall-growing

View on the St. Johns.

palmetto were prominent, while the higher ground was usually covered with pines and scrub palmetto.

The accompanying view on the St. Johns is a very good representation of scenes on this part of the river. On the right is a group of palmetto, as they appear at a little distance, and on the trunk of the one at the left can be dens. Although it was only the 8th of March we found ripe mulberries in abundance and butterflies of many *genera* flitting about. Mocking birds were numerous, filling the air with their ever varying song, so that one might easily suppose that there was a concert of many songsters being held in the trees. Strawberries were ripening on the vines. The wild flowers were not very abundant; probably it is yet too early for them. The mistletoe abounds on the oak trees here. The soil is much the same as that we have found hitherto; sand, sand. In one of the gardens we unexpectedly came upon a monument with an inscription in Latin, which told the passer-by that here lies a whooping-crane that was killed by a stroke of lightning. We afterwards learned that the grounds belonged to an eccentric bachelor.

On our return we stopped at Green Cove Spring, a view of which is given in the accompanying cut. The reader will see that one of the trees is laden with the Florida moss, which abounds in every place we visited. It gives a peculiar aspect to all the scenery here, hanging from the branches of the trees like a long gray beard. There was something mournful and sombre in its effect to us that we could not wholly throw off. The spring is, like many others in this strange land, at the bottom of a depression in the general level of the country, many of which are impregnated with sulphur, and thought to be curative when used for bathing. There is nothing special to be said of the plants and trees we found here. A charming walk along the river bank leads down to Magnolia, and one who has the leisure may find much to interest in looking up the many picturesque views to be found about the river. At Magnolia we visited the



GREEN SPRING COVE.

vegetable garden attached to the hotel. Like the one we saw at Palatka it was formed by throwing the earth into beds, so that the walks were trenches. The vegetables were lettuce, cabbage and cauliflower, tomato plants about ten inches high, and potatoes almost ready to blossom, a few peas and some nice looking beets. It would seem as though the celery is kept in the garden all winter and used as wanted. Water melons and musk melons were just coming up.

Florida is an interesting country to visit in the winter, especially to those who have never seen this sub-tropical vegetation; but our northern land in summer is to me far more beautiful, and our pears, plums, peaches, &c., far more delicious than the oranges and bananas of Florida. Many persons are so pleased with the winter temperature here, and so captivated by the wonderful accounts of the large sums of money realized by the fortunate owners of orange groves, and so overwhelmed by the generosity of gentlemen willing to part with some of the best orange producing land in the State for a consideration, that they are induced to invest; these in turn persuade others, so that Florida is likely to enjoy a very considerable increase of population and have her resources wonderfully developed in the near future. Those who make haste slowly, who do not attempt to grow products unsuited to the soil and climate, and can be content to labor and to wait, will reap in due time a remunerative reward.

CHERRY CULTURE IN COUNTY OF GREY.

I have read the Annual Report for the year 1883. It is very good. I see on page 165 that Mr. Roy says we cannot grow cherries around Owen Sound at all, save in exceptional cases. I reside about four and a half miles from Owen Sound, and have grown them over thirty years, and nothing can grow better nor bear heavier crops; but the plum trees are badly killed. All the trees and plants I received from the Association are doing well. The Burnet grape is doing well, and indeed

all the grapes. I have ten or twelve varieties. My peach trees are fresh to the topmost bud, but there will not be much fruit on them. They were loaded with fruit last year.

Yours truly,

WILLIAM BROWN.

SPARROWS AND PARASITIC PLANTS.

EDITOR CANADIAN HORTICULTURIST:

SIR,—I was pleased to see in the April number of the *Horticulturist* an article in favor of my old acquaintance, the English sparrow. It appears that that enlightened body, the Fruit Growers' (fruit eaters') Association of Ontario, have decided that the sparrow must go; but suppose if, like the Hon. Mr. Mowat, he will not go, what then? Do they intend to resort to bribery by offering that ubiquitous individual, the small boy, a cent a head for all the sparrows he can catch and two cents apiece for every sparrow's egg, and so get rid of him? If so I hope they will adopt the necessary measures to get rid of the tent caterpillars at the same time. There are but few sparrows hereabout, although there are a good many in the town of Owen Sound, a place which one of the Salvation Army correspondent's in the *War Cry* calls "the Devil's headquarters in Ontario," and perhaps he is not so very far wrong either, and the Salvation Army boast that they have captured one of the worst men in the place, so they hope to succeed in driving him out altogether—the devil, I mean, not the sparrows. My principal object in writing is to call your attention to the following extract from *Colin Clout's Calendar*, by Grant Allan:—

But there are other and still more abandoned parasites like yellow-bird's nest, which have no leaves at all, and cannot provide themselves with food in any way. Yellow-bird's nest is a very rare plant in England—a degraded relation of the heaths, which has taken entirely to living on the roots of trees, sucking up their juices by its network of succulent rootlets. Its leaves have consequently shrunk by disuse into mere pale yellowish scales, not unlike those which one sees on the young shoots of blanched asparagus. Now, yellow-rattle and its kind deserve notice as showing the first step of this downward course; the initial stage through which the ancestors of the mistletoe must once have passed, and the ancestors of the yellow-bird's nest must ages ago have left behind them. The plants are not in any way related to one another; on the contrary they are extremely unlike as far as pedigree goes, but they have all three independently acquired the same parasitic habits, and they all exhibit different stages in the same periods of degenerescence."

Now, it has occurred to me to ask you if this English yellow-bird's nest may not be identical with the disease called yellows in peaches, and if so, would the knowledge of this fact be of any use in leading to the discovery of a remedy without resorting to the extreme measure of grubbing up and burning the infected peach trees, root and branch. The yellow-rattle is another parasite very destructive to the grasses. If once it gets into a meadow nothing seems to be of any use to get rid of it. As a rule one ought not to speak evil of plants behind their backs, but, for a hungry, persistent, deliberate, designing, importunate parasite, your yellow-rattle really has no fellow. There is not a single redeeming point about it; it is ugly, useless and uninteresting, and it makes a wretched living by fastening on the roots of grasses and draining them dry with its horrid clinging suckers. See here, if you pull up a tuft of meadow foxtail carefully, you find the rattle actually engaged in sucking its life blood at this very moment. Rinse the two stocks together in the basin where the brook runs clear from the culvert for a foot or

two to make a drinking place for the cattle, and when the soil is washed away you will be able to see the actual mouths by which it fastens itself to the rootlets of its host. Rattle dwarfs the grasses terribly and makes a hard, dry stringy fodder itself into the bargain. The rattles are a whole group of half-developed parasites well on the way to the worst state of degradation, though not yet so utterly degenerate as the leafless toothworts or the scaley broomropes. They can still grow feebly, if left to themselves, for when you sow the seeds alone in a flower-pot, by way of experiment, the young seedlings will rise to an inch or two, put forth a few scrubby leaves and blossom poorly with a couple of straggling flowers or so. But when you let them have some nice vigorous grass plants in the same pot, they fix upon them immediately and grow to a foot in height, with a comparatively fine spike of pale primrose flowers which children sometimes know as cockscombs. Eyebright has just the same trick, and so have the two red-rattles, cow-wheel, and others of their kind. There are some parasites, like mistletoe, whose parasitism has become so deeply ingrained that their seeds will not even sprout except on the body of a proper host, and those have adapted themseives to their peculiar habits by acquiring very sticky berries which fall on a bough and are gummed there by their own bird-lime. Even such an hardened offender as the mistletoe, however, has partially green leaves which assimilate food on their own account.

SCARLET GERANIUMS, ASPARAGUS, &c.

Among all our old-fashioned garden flowers not one is brighter or prettier than those common pelargoniums from the Cape, which we all know as *scarlet geraniums*. They are not exactly of the genuine botanical geranium type, it is true, but they are quite near enough to it for even unlearned eyes to perceive immediately the close relationship between them. I suppose every body knows the little wild herb-robert of our English roadsides, its petty lace-like foliage turns so bright a red on dry walls or sandy hedge-banks that even the most casual passer-by can hardly fail to have learned its name. Herb-robert is the true geranium, and it has many familiar allies in Britain and in the rest of Europe, including that large and brilliant kind, the blood geranium, which studs the limestone rocks of the Mediterranean and the Atlantic shores from Sorrento and Cadiz to our own Cornish, Welsh and Cambrian cliffs.

Most English lilies flower in spring or very early summer, but asparagus is an exception to the general rule. Asparagus is a wild plant of the British south coast by origin, and though it is now becoming rather rare on our own shores, I have still picked a few sprigs of late grass on the rocky islets at Kyname Cove in Cornwall, and at some other isolated places along the English seaboard from Devonshire to Wales. Its life history is a curious and interesting one, for it forms a rare example in our own country of a green, leafless plant, with branches closely simulating foliage both in appearance and function. The primitive wild asparagus is a wiry herb with matted perennial root-stock, in which it stores up food-stuffs during each summer for the supply of its succulent green shoots in the succeeding spring. Under tillage we have made it increase from its present primitive stature of two feet or less to an average height of four or five, and at the same time its spring shoots, which are slender and rather stringy in its native sands. Many Alpine plants still linger in isolated spots of Britain. For example, the beautiful lady's slipper, by far the most striking of all the

northern orchids, was once found in several parts of this country, but it now lingers only near Settle in Yorkshire, and on a single estate in Durham, where it is carefully preserved by the owner as if it were pheasants or fallow-deer. The same thing is true of many other British plants. The seakale came originally from the coast of Devonshire and was naturalized in English gardens about a century and a half ago. Nevertheless it is found growing wild on the beach on the south side of Anticosti; so also is the weed called lamb's-quarter, and a variety of wild pea. Wild gooseberries (red) of as good quality as those found in our gardens, rather small, resembling Houghton's American seedling, are found in large patches growing on the shingle but inside the bank above the reach of ordinary spring tides. Possibly if some of the plants could be brought here it might be found capable of resisting the attacks of mildew. I will try to get a specimen next summer. My son-in-law, Mr. E. Pope, is still in charge of the S. W. Point Lighthouse. Have you any varieties mildew-proof?

SARAWAK.

Edgewater Farm, Sarawak,
21st April, 1884.

RECENT FROSTS IN EASTERN ONTARIO.

The 25th and 26th May, and previous days were unusually close and warm for the season, stimulating vegetation to a remarkable degree; the leaves on the forest trees were fast expanding, and the young growth as usual at such seasons was very tender. On the afternoon of Tuesday, the 27th, the wind veered round gradually towards the north, and the thermometer took a marked dip. The sky during the night was clear, and on Wednesday morning it was noticed vegetation was looking quite sickly. The frost of the previous night was very light, the glass only sinking to 32°, the morning was cloudy, and it was hoped the cold snap would pass off without any serious consequences, but the wind blew a partial gale all day; and its blighting effects were becoming evident, the Mercury indicating 40° to 42°. Clearing weather towards the night of Wednesday caused increasing cold, and on Thursday morning the glass had settled down to 28°, this was the lowest temperature reached; there was a light frost again in some localities on Thursday night, but the ice formed was of the thinnest.

The warm weather in the early part of May had encouraged planters to put in their crops, consequently beans, potatoes and corn were well through the ground, tomato plants had been very generally set out, grape vines had in many instances, especially the Champion, grown nine inches, and were showing the flower buds on the new shoots. All the annuals above mentioned were cut to the ground, a few beans and tomatoes here and there were left standing, but the majority were destroyed. The grape vine shoots were not all killed; frequently of two which had sprung from neighboring eyes, one was taken and the other left, in very few vineyards were all destroyed, though one case is reported. The damage to vines will probably in exposed situations reduce the crop about Ottawa from one half to two thirds, though some will not suffer so much, while others will come off worse. I do not notice that any one variety has escaped better than another, but those which had grown the longest shoots are probably the most injured. Taking a drive into the country on Saturday, the 31st, it was found many of the forest trees had suffered; the black ash leaves were quite destroyed; the butternuts were badly frozen, and as these were in bloom it is feared the nut

crop will be a short one, except where the trees are protected by the overhanging limbs of other varieties; the leaf of the butternut is not a quarter grown, beaches and maples also show signs of the frost, but not in so marked a degree. The Russian and English Mulberry whose leaves were just opening are badly nipped. Strange to say, the apple trees just coming into bloom and the plums whose blossoms had fallen, do not appear to have materially suffered. Peas as a rule are a hardy crop, and all appear to have stood very well except Arnolds hybrid known as Bliss's "American Wonder" which has come very badly out of the conflict.

Clover and growing cereals are reported to me as damaged, but I noticed little of this on my way through the country, and presume the injury sustained was on low land. Potatoes will of course come on again, but those unprotected will not yield so early a crop as was expected. The most singular incident of the cold term is reported to me by a gentleman who lives near this city, he states that he has picked up five humming birds which were killed by the frost. These beautiful little strangers have been visiting the spring flowers for the past ten days.

All attempts on my part to discover the course of the frost waves, or why a tree or a plant of the same variety was killed in close proximity to another, has proved abortive.

It is believed when accounts from other localities come to hand it will be found the Ottawa district will have suffered less than places further west and south. This is the first spring frost of any consequence which has visited this section during the past seventeen years.

P. E. BUCKE,

Vice-Pres. F. G. Ass. of Ont.

Ottawa, 2nd June, 1884.

LESSONS OF THE FROST OF MAY 29TH, 1884.

This frost was forming for three days and fell at length with unusual severity at a period after heat when vegetation was in an unusual state of forwardness and beauty. Most of the fruits were badly injured, and the young growth cut, and the tender leaves of even forest trees and others totally destroyed, and this over a very large extent of country, from the Far West to New York in the east. The damages to our crops may be estimated by millions. Here we would say, by way of apology, that we do not at all times love to dwell upon our losses for popular topics or to float our failures before the world for examples, but still in some instances, it may be well to look fairly and squarely at them and ask ourselves instructive and suggestive questions in order to learn of usefulness and possibly remedy. In this case, as in most others of this class, there are a few leading ideas that may be taken as texts from which to arrive at progressive lessons of value in the future. And although one cannot with exact precision tell why it is that our otherwise delightful and prepossessing country should be so subject to such destructive influences as these are, and to spread disappointment and death over so vast and beautiful fields and orchards just at a period of the greatest possible promise of fruitfulness, and when vegetation is making such astonishing developments of young and rampant growth, yet we can understand some things that in our circumstances may contribute to the subtlety of the influences and the fatality of the visitations. We know not the distant chambers of the north, where lie the winds concealed or their power to break forth just at this particular season when we might least expect them, but we do know that they come. Perhaps these influences have always ex-

isted as the remains of ancient time, and perhaps they always will exist, but the facts are patent to all that we are made to suffer more and more as the years roll by. We would not therefore at present, with our limited means and space at command, attempt to answer the question, "can we control these influences?" No, no; but we would rather come at once to a few common and practical thoughts, and let them act as

LESSONS OF INSTRUCTION

for our future guidance in life and the management of those interests upon which our national life so much depends. We would remark, therefore, firstly, that by continually stripping the country of its admirable forest growth of timber, we are surely subjecting it more and more, as this destruction advances, to heavy and disastrous spring frosts, as well as destructive winter winds. How these frosts occur, and the reasons of them, must be sought in our location, being, as it is, immediately south of tremendous and never-ending ice fields and mountains of snow in the far untraversed north. The biting cold of this region is at anytime likely to come over us, as the shifting winds from the north so effectually drive it southward, producing at once a chilliness that is felt, and a coldness that is deathly in its fall in the shape of frosty whiteness on our fields and orchards, whenever there is no mitigating influence to prevent it. Now, we maintain that the presence of neighboring trees would be a friendly protection in such cases, and that they would largely counteract the influences of frost, at least on the soil below them, and these cold winds driving over them would be thus deprived of their sting and venom. If this theory be correct, as we honestly think it is, then the natural inference, and the great lesson for us to learn, is the necessity of planting more trees over our country for ornament and defence against sudden cold to which we find ourselves so liable from year to year. Again, we would learn, secondly, the wisdom of mixed culture and varied production in our horticulture in this country.

In this case it is to be observed that our strawberry crop, for instance, was just at that period of its growth when it could receive the largest possible injury should a severe frost fall upon it. But the frost did fall upon it, and the sad and disappointing results are that half the promise was hopelessly destroyed. But, by way of contrast,

THE RASPBERRY CROP,

was in a different and much more backward state of development where it would receive the least damaging effect should a frost fall upon it. The consequence is in this case that the raspberries are little or nothing injured by this severe visitation. Here the lesson of wisdom is to cultivate more raspberries and such other crops as we know will be least influenced by a frost at this season should one occur, which is almost sure to be the case as it appears now to be a *standing national institution.*

The various sorts of raspberries and blackberries in their varied times of ripening and their varied qualities would form a very interesting succession of fine and excellent fruit which would greatly balance against the danger of injury of frost at this season of the year. We cannot do whohlly without the strawberry, but I think it would be wisdom to depend less upon them where the conditions are so unfavorable. Thirdly, the question of warders or protectors and in many instances the selection of choice and favored spots or localities might be possible and even practical. These

warders may consist of planting evergreens, as our beautiful towering pines, &c., in the fruit grounds or about them for protection against frosts, or the supporting of fires or smudges, &c., in the fruit grounds during the time of expected frost, might do much good. Or the forming of pools or reservoirs of water on the fruit lot by their influence might very much lessen the severe effects of frost upon the plants. But above all we would advise fruit growers and say to them "be careful in your selection of your locations." Look anxiously for the fairer spots in sheltered locations near large bodies of water or forest. Those favored spots of earth that we have in abundance in several parts of the Province and that are known to ensure good crops almost every year should be diligently looked after and secured for fruit culture. We know that near our beautiful fresh water lakes, on certain sides of their shores, are favored places that should be wholly devoted to the interests of fruit culture. Fruit growers should seize upon them in colonies and by means of improved processes of culture should have these favored places developed to the fullest possible extent of their capacity and by this means a good supply of fruit keep up. I freely offer you these suggestions on this subject; they may not be wholly thrown away upon you.

Truly, B. Gott.

Arkona, June 10th, 1884.

PRODUCTIVENESS OF CLINTON VINES.

At the bottom of my garden, with an eastern aspect, I have four vines trained so as to form an arbor eleven feet over head. In October, 1882, I took off what I considered a large crop, about 250 lbs. Last year I determined to weigh the fruit as gathered. It amounted to 335 lbs., not including what the "small boy" stole. The length of the trellis is not more than 42 feet. A large proportion of the bunches measured nine and ten inches in length, the system of pruning adopted being principally long-rod.

Wm. R. Hughes.

32 Metcalfe Street.

FRUIT-GROWING AT COLPOY'S BAY.

Dear Sir,—It may be of interest to know how I have succeeded with the young fruit trees planted last year. The weather was most favorable to me all through the year. I had fine cool weather for planting, with wet following soon after, and again the summer was moist and cool.

The trees, especially the plums and pears, made a good start for the most part, and are thriving well. The warm weather during the last fortnight in March this year, succeeded by the severe frosts in the early part of April, the thermometer going down very often to 7° above zero, seriously affected all my plums, peaches, nectarines, apricots and quinces, and killed some. That this was the cause and not the severity of the winter, I can unhesitatingly aver, as when I went through my orchard on the 28th of March, these trees were exhibiting beautiful bright red shoots, strong and healthy, and at the end of the very next week the shoots, shortly before so fresh and bright, were disfigured and blackened. Not one plum, peach or quince tree escaped entirely scatheless, but nearly all the plum trees have completely recovered, only here and there showing some dead leaf buds and ends of shoots withered away.

I lost six dwarf Vicars, but I should state that they were in every case affected badly by my pruning, though I only pruned them slightly. The very next day they turned black, and the blackness seemed to spread through the

whole tree and I gave the six Vicars up for dead. However, I looked at them to-day—it is about a fortnight ago that I pruned them—and am now in hopes they may after all pull through. Strange to say every other variety pruned in exactly the same way took no harm, though pruned near the same time, some the very same day; moreover all these Vicars were strong, vigorous-looking young trees. Can you explain this? Is it on account of the Vicars being thrifty growers? But, strange to say, the Clapp's Favorite and Flemish Beauty, which also made very thrifty growth last year, were not affected by my pruning. Peaches were all doing well till the early rising of the sap in March, as in the case of the plum trees, exposed them to being nipped off by the frosts in April.

My soil is a warm, sandy and gravelly loam, where the apples, plums and peaches are, but a gravelly clay loam where my pears are. In both cases there is a limestone bottom.

In my old orchard consisting of 300 trees, about 150 planted 8 years ago, the apples, excepting Snows and Duchesses, do not show much signs of fruit. My four Flemish Beauties and two out of three Clapp's Favorites, promise to be laden with fruit; three Bartletts, two Bloodgoods, one Louise Bonne and one Clapp's Favorite, promise to bear fairly.

There are three Duchess d' Angouleme, 8 years planted, and about twenty feet high, that have never borne and show no signs of it yet. Would you do anything to make them bear?

E. A. C.

NOTE BY THE EDITOR. — Duchess pear trees of that size and age would be bearing fruit in the County of Lincoln. Why do they not bear at Colpoy's Bay? Are they yet growing so very fast that they do not form blossom buds, or are the flower-buds killed by the cold of winter so that they never open? Or do the trees bloom but fail to set their fruit? Will our esteemed correspondent throw what light he can on this subject? It may be that when we have learned the cause of their failing to fruit some remedy can be suggested.

HARDY ROSES.

The following list of the best hardy roses as continuous bloomers, for outdoor culture, and of the best hardy roses adapted to general cultivation, is recommended by the committee appointed by the Massachusetts Horticultural Society to prepare the same.

Continuous Bloomers—Alfred Colomb, Annie Wood, Boieldieu, Caroline de Sansal, Fisher Holmes, Francois Michelon, Gen. Jacqueminot, Marie Baumann, Mme. Victor Verdier, Mons. E. Y. Teas, Pierre Notting, Rev. J. B. M. Camm, Xavier Olibo. *Charles Darwin, *Countess of Oxford, *Dr. Sewell, *Marguerite de St. Amande, * President Thiers.

The last five (marked with stars) are fine, constant bloomers, but liable to mildew.

Hardy Roses for General Cultivation. —Alfred Colomb, Anna de Diesbach, Annie Wood, Baron de Bonstetten, Baroness Rothschild, Charles Lefebvre, Duke of Edinburgh, Etienne Levet, Fisher Holmes, François Michelon, Gen. Jacqueminot, John Hopper, Jules Margotten, La Rosière, Marie Baumann, Marquise de Castellane, Maurice Bernardin, Mme. Gabriel Luizet, Mme. Hippolyte Jamain, Mme. Victor Verdier, Mons. Boncenne, Mons. E. Y. Teas, Paul Neyron, Rev. J. B. M. Camm, Thomas Mills, * Louis Van Houtte, * Mlle. Marie Rady, * Pierre Notting.

The last three (marked with stars)

are difficult and uncertain, but so remarkably fine that the Committee could not refrain from mentioning them.

JOHN B. MOORE,
April 5th, 1884. *Chairman of Committee.*

THE NEW ORLEANS EXPOSITION.

The United States Congress has authorized a loan of one million of dollars to the International Exposition to be held all next winter at New Orleans. This Exposition promises to be the largest exhibition of the industrial resources and products of the world ever held in this country. The main building covers 33 acres, affording 1,656,300 square feet of ground, or 1,215,000 feet of exhibiting space, a larger area than that of the main building and machinery hall combined at Philadelphia in 1876.

All the Southern States have applied for space, except Kentucky, and a bill is now before the Legislature of that State, providing for a grand display of its resources there. Twenty Northern and Western States and Territories have already secured space, and others are making arrangements to be represented. Fourteen foreign Governments have declared their intention to take part in the display, and a large area has been applied for by foreign firms and individuals.

The applications from American exhibitors alone already call for more space than was occupied by similar exhibits at Philadelphia. The Live Stock Department will transcend anything of the kind ever seen in this country. In the Horticultural Department the premiums will amount to over $20,000, besides gold, silver and bronze medals.

Arrangements have been made for experimental gardens, in which growing crops, such as cotton, sugar, jute, tobacco, etc., will be shown. Quantities of evergreens from nurseries North and South will embellish the grounds. Mexico has appropriated $200,000 for the Exposition, and many of the States of that Republic have appropriated $5,000 each, to display their special resources, while all the Central American States are taking great interest in the show. Never has there been seen so vast and varied a display of manufactured goods as that which will delight and instruct visitors to the Crescent City next winter, while the exhibition of minerals from foreign countries and our mining States and Territories will be the most extensive ever witnessed.

Is Canada not to be represented at this Exhibition? Surely Canada can not afford to let such an opportunity for advertising her productions to go unimproved.

GAS TAR v. MEALY BUG.

Seeing a little controversy lately on gas tar as a remedy for mealy bug, I venture to give my experience of its use on vines infested with that pest. In my case it proved successful. About nine years ago, on taking charge of a garden, I found four vineries infested with bug, two very badly, the fruit then hanging being literally full of the pest and quite unfit for table. As soon as I could clear all the fruit off I had the houses well cleaned, working turpentine into all the crevices of the woodwork and trellis; the Vines were washed and scrubbed and then painted with the usual clay mixture, but my enemy showed itself in force again next season. I then tried the following recipe for its destruction, viz., petroleum and spirits of wine; this was used on the Vines in one house and killed them nearly to the ground level; they, however, broke strongly from below and soon made headway. Now, I thought I had at least got rid of the pest, but not so; it showed itself again in numbers, which I contrived to keep in check and from spoiling the bunches by constant watching and the use of Fir-

tree oil, but could never eradicate it entirely. When first I heard of the gas tar cure I was afraid to use it, bearing in mind my former misfortune; but after seeing a friend use it successfully I determined on taking my present charge, and finding one of the vineries well stocked with my old enemy, to give it a fair trial. I merely removed the loose bark, and did not wash the rods in any way; I then applied the tar at the rate of one part to six of clay, working it well into all crevices with a stiff brush, over the eyes as well as the canes. The result is no injury to the Vines, but an almost entire annihilation of the enemy, only one here and there having been seen this summer. It is, however, a desperate battle when none escape, and I feel confident by following the dressing up this winter, I shall see the last of the pest. I might add that except where mealy bug is present, I never dress Vines with any mixture whatever; I prefer to give the rods a good washing with soap and water, cleanliness in my opinion being more conducive to good health and robust growth than stopping the pores up with clay, soot, and other unsightly mixtures.—C. J. WHITE.

I gave the tar and clay-dressing a trial on some Vines in an early house that were badly infested with bug. They were merely washed, the loose bark removed, and then painted with the mixture, using one part gas tar to three parts clay and water, keeping the mixture well stirred. The mixture was well worked in with an ordinary paint-brush over every part of the rods, including the eyes, without any injury to the Vines, which started well and have borne a good crop of fruit. Finding the Vines broke strongly and appeared none the worse for the application, we treated the other two vineries the same, except that we did not wash the Vines or in any way clean them before applying the mixture, and I am glad to be able to state that there has been but very little bug seen in either of the houses this season. Indeed, I never before saw the Vines so clear of the pests as they are at the present time. I intend to give them a similar dressing this winter, which I believe will entirely eradicate the bug. I should state that in previous years the Vines had been washed and dressed in the usual way and paraffin had been freely used when cleaning the houses.—S. T. H., in *The Garden*.

SWEET CORN.

N. Y. AGRICULTURAL EXPERIMENT STATION, GENEVA, N. Y., April 12, 1884.

In 1883 we grew at the Station twenty-six varieties of sweet corn. As the matter of earliness in this garden crop is an important one, we kept record of the appearance of silks in each variety, as indicating to a certain extent the corresponding periods of maturity. It would have been preferable to have noted the period when the ears were in condition to use on the table, but this we could not do as it was important that we should not destroy any portion of our crop.

The seed was planted on May 16, and the figures indicate the number of days from this date to the appearance of the silking of the first plant in each lot.

	Silked in days from planting.	Date.
Early Marblehead	56	July 11
Easly Narragansett	61	" 16
Pratt's Early	61	" 16
Early Minnesota	62	" 17
Tom Thumb	62	" 17
Dolly Dutton	64	" 19
Crosby's Early	68	" 23
Wyoming	68	" 23
Early Orange	69	" 24
Darling's Early	69	" 24
Golden	70	" 25
Rochester	70	" 25
Early Dwarf	71	" 26
Moore's Early Concord	72	" 27
Squantum	72	" 27
Black Mexican	76	" 31

	Silked in days from planting.	Date.
Early Eight-rowed	78	Aug. 2
Amber Cream	78	" 2
Asylum	79	" 3
Excelsior	79	" 3
Triumph	81	" 5
Hickox	82	" 6
Egyptian	84	" 8
Stowell's Evergreen	84	" 8
Ne Plus Ultra	85	" 9
Mammoth	86	" 10

In regard to quality, we can only express our own taste: some people prefer a corn less sweet than do others. The Ne Plus Ultra is exceptionally fine, but is late; Crosby's Early, to our taste, is the best of the earlies, although Early Marblehead is very good. The Golden Sweet we have not eaten of our own raising, but such as we have tried elsewhere has been peculiarly rich in flavor. The Black Mexican is white while in edible condition, but is apt to cook slightly blue-tinged so as to cause the appearance on the table to be unattractive. Its quality, however, is very sweet.

E. Lewis Sturtevant,
Director.

DISEASED RASPBERRY CANES.

We have received from Mr. Robert Stark of Woodstock samples of raspberry canes which were nearly covered with patches that shewed evident traces of injury from some cause, resulting in decay to the affected parts. Mr. Stark writes as follows: "I send you a slip from some black caps, I think Gregg, grown here, which have been planted for six years and fruited well for two years. Since then they have gradually become afflicted with the disease which has at last killed them completely. Do you know the cause, and is there any remedy? Your kind answer will oblige in next number of the *Fruit Growers' Association Journal.*"

The editor apologizes to Mr. Stark for the non-appearance of an earlier reply. The letter of inquiry came to hand on the 18th of April. In order that the *Horticulturist* may be mailed on the first of each month, it is necessary that the matter be in type by the 15th of the preceding month, so that the May number was already in the hands of the printer when his letter was received. Besides this, the months of April and May are so crowded with business matters that your editor is compelled to make up the June number before his busy season comes on, so that it was impossible to give this subject the attention which its importance demanded in time for the June number.

As to the cause of this disease we can not speak with confidence. It would be necessary to see the canes when first shewing symptoms of the attack, and probably again during the progress of the malady. It seems, from the appearance presented in the dry state, to have been attacked by some fungoid plant, such as the raspberry rust, which has fed upon the tissues of the cane and sucked out its life. Perhaps Mr. Stark may be able to find some growing canes similarly affected and send them to our President for examination under his powerful microscope, by which the cause of the trouble may be conclusively revealed.

A NEW FINE-FOLIAGED SHRUB.

(Prunus Pissardi.)

It seems a pity to let the present planting season pass without directing attention to this, the most distinct and beautiful of shrubs or trees with colored leaves, which have originited in gardens or have been introduced to cultivation for many years. Mons. Carrière truly remarks that it is certainly the most remarkable plant which has been introduced for some years. Besides its being a novelty (always a recommendation in itself), it is interesting from two points of view, as a fruit tree as well as a "foliage" plant. The leaves are an in-

tense red, and remain on the plant some time after those of most of its allies have fallen. To M. Pissard, the head gardener to the Shah of Persia, is due the credit of sending Prunus Pissardi to France, from whence it has been widely distributed. From the details published by M. Carrière it appears that this new Plum comes from Tauris, an important Persian town, situated about 270 miles from Teheran. It seems it far from common in Persia, where it is much sought after on acccount of the color of its leaves, and more particularly for its fruits, which are a deep red, even as soon as formed. For this reason the latter are valued at Teheran even before being ripe, and are eaten with salt, and also used for table decoration.

P. Pissardi is a much-branched shrub, with ascending twigs and black, shining bark. The leaves vary in intensity of coloring according to the time of year, but are never dull. The pure white flowers are similar to those of the Myrobalan section, and open early in March. The somewhat small fruits, although not of superior quality, are thoroughly eatable when quite ripe. M. Carrière recommends its cultivation in pots like Spiræas and other woody things, as the plant branches freely and bears cutting well. It is thoroughly hardy in this country. A correspondent at Forfar writes to say that it grows vigorously in the nurseries there. During a recent visit to the Waltham Cross Nurseries of Messrs. W. Paul & Son, I was particularly struck with the brilliant coloring of P. Pissardi, and it only requires to be seen once to have its merits as a hardy fine-foliaged plant fully recognized. Since publishing his original description, M. Carrière has sown seeds of P. Pissardi and the Myrobalan Plum under the same conditions. The results were in both cases the same, so it is settled definitely enough that the former does not produce seedlings with colored leaves, and that it will be necessary to work on the Plum stock. In all probability P. Pissardi is a variety of P. cerasifera.—George Nicholson, *in the Garden.*

Note by the Editor.—This beautiful, new, deep red foliage plant has proved to be perfectly hardy in the Editor's grounds at St. Catharines. It has not yet borne fruit, although some of the larger specimens had a considerable number of blossoms the past spring. From its habit of flowering when of so small a size, it is to be inferred that it is of shrubby habit.

PANSY CULTURE.

The requisites are young plants, rich mould, and a regular degree of moisture. Those about to begin the culture of the pansy should procure a three-light frame, a few dozen well-selected plants, a cartload of good loam, some rotten leaf-mould, sand, and thoroughly rotten cow manure. The bed should be prepared as early as the ground and weather permit. It should be away from the full glare of the sun, and, if the soil is poor, wet, sodden, heavy or sandy, these evils must be counteracted by striking the medium. The plants should be placed a foot apart, and six inches from the edge of the bed, and should have a good watering after planting, and the surface of the bed must be often stirred. In dry weather it must be watered with a fine rose every evening, not merely wetting the surface, but *thoroughly.* The beauty of the bed will be over by July, and if it is necessary to replant, young plants should be prepared from cuttings; or by dividing the old plants and adding manure a good bloom may be obtained in autumn. Though the pansy suffers very little from frost, it should be well protected

in very severe weather. In April the frame should be reversed from south to north, thus avoiding the full glare of the sun, which is very important. To keep up a good variety, the best seed should be selected, and each color should be marked separately.—*Discussions of the Massachusetts Horticultural Society.*

IMPORTANCE OF ECONOMIZING AND PRESERVING OUR FORESTS.

By William Saunders.

(From the Transaction of the Royal Society of Canada.)

At first sight, forests appear to the settler in a wooded country as obstacles to advancing civilization, to be removed as rapidly as possible, and with unwearied zeal and persistence in the use of axe and fire the encumbrances are soon disposed of. The stock of fertility accumulated by the long continued annual fall and decay of the leaves is utilized in the growth of cereals for man's sustenance, and in his zeal to get rid of the trees, the owner seldom reflects on the inestimable value of woods in providing shelter against storms, in equalizing temperature and moisture, and in purifying the atmosphere.

Perhaps the most obvious modification of climate by forests is in arresting wind, subduing its power in a greater degree than a solid barrier would, the limbs entangling and killing its force in a marked degree. Even a single tree has a wake of calm stretching away to a considerable distance, while a forest of deciduous trees absolutely arrests the wind near the earth. A windy climate is generally an unhealthy one, as indicated by the marked increase in mortality during and following the long continued prevalence of cold winds.

Forests also equalize violent alternations of heat and cold; the temperature is lower in summer and higher in winter in the forest than in the adjacent open ground. During the heated term the umbrageous foliage protects the soil from the direct action of the sun's rays, while every leaf by the evaporation of moisture from its surface acts as a refrigerator on the air immediately adjacent. In winter the heat which has been absorbed by the water with which the soil is charged also by the earth is slowly given up, and, added to the minute quantity of heat given forth by the living trees themselves, forms a reservoir of warmer air, which is slowly displaced in severe weather and mitigates its severity; indeed the forest is a treasurer of the elements of climate, hoarding excesses and distributing in times of need.

Forests also exercise a governing and conservative influence on the humidity of the atmosphere. The roots of trees act in a measure like conduits, admitting the rain water into the sub-soil, while over this lies a stratum of humus, highly absorbent, and on the surface a layer of decaying trees, the whole acting something like an enormous sponge holding a vast quantity of surface water reserved for the heated season. Then, when the need for it is most urgent, it is elevated to the upper surface and distributed to the parched air by evaporation from the leaves, as already stated.

Forests also influence rainfall; trees indeed are most singularly complicated condensers, their limbs, boughs and leaves being a sort of natural machinery, wonderfully adapted to the purpose of grasping upon the atmosphere and causing those dynamic changes which induce precipitation of moisture.

Trees purify the soil. The pollution constantly going on about our dwellings charges the soil with organic matter, which the roots of trees search out, follow and feed upon, and alter it as completely as if it were burnt, and elevate it into the upper air in forms of beauty.

Data for the investigation of the influence of forests on the all-important question of rainfall, must be looked for in the eastern part of the world, where deforestation has been greatest, and where large districts have thus been entirely altered in their character and capabilities.

When the Jews first settled in Palestine it was a proverbially fertile country, a land flowing with milk and honey, and favored with a pleasant climate. Then the mountain ranges of the country were densely covered with forests, in which the stately cedar of Lebanon held a prominent place. The gradually increasing population of Palestine enjoyed comfort and abundance during many centuries, but a gradual devastation of the forests, which was finally completed by their enemies, produced a wonderful change. The hills of Galilee, once rich pasturing grounds for large herds of cattle, are now sterile; the Jordan has become an insignificant stream, and several beautiful smaller rivers mentioned in the Bible, appear now as stony runs, which carry off the surplus water resulting from the melting of snow in spring, but are completely dry during the greater part of the year. Some few valleys enriched by the soil which has been washed down from the hills, have retained a portion of their fertility, but the country as a whole is arid and desolate and not capable of sustaining one-fourth of the population it contained in the time of Solomon.

Under the reign of the Moorish Caliphs, the Iberian peninsula resembled a vast garden, yielding grain and fruit in the greatest abundance. Then the sierras and mountain slopes were covered with a luxuriant growth of timber, which was afterwards wantonly destroyed under the rule of the Christian kings, while large herds of half-wild goats and sheep prevented the spontaneous growth of trees which would otherwise have taken place on the neglected lands. Now nearly all the plateau lands of Spain are desert-like and unfit for agriculture, because of the scarcity of rain.

Portions of Sicily, Greece, Italy, France, and other European countries, have suffered in like manner, and the plains and hillsides, once luxuriant with verdure, yield now but scanty crops, or are converted into arid wastes. In France the government has adopted a regular system of forest planting, which is proving a great success and which in course of time will doubtless remedy the evils complained of, repay the expenses incurred and yield a revenue to the public treasury.

Germany, which had also suffered from deforestation, was one of the first European nations to set to work energetically and systematically to remedy it by extensive planting. The work was begun nearly two hundred years ago, and during this period the country has been brought from the condition of a wood famine to a state in which there is now grown annually more wood than the country needs to use. It is estimated that with the systematic planting now regularly carried out, Germany can cut from ten to fifteen billions of feet of lumber from its thirty-five millions of acres of wood lands yearly, for all time to come, a product from which the State is said to receive a net revenue of nearly forty millions of dollars per annum. Besides all this, while in many other countries the climate and soil have deteriorated to an alarming extent, Germany has gained in fertility, and tracts of formerly worthless land have been brought under successful culture, and the climate, if it has not improved, as some claim, at least has not deteriorated.

Other countries are following the example of Germany, and systematic

forest-planting is now being faithfully carried out, not only in Europe, but in India and Australia.

In our own country, although we have not yet felt any ill effects from the partial removal of our woods, yet the timber supply is being so rapidly exhausted, that the question of replanting must before long engage the serious attention of our people. At the present rate of consumption and destruction, it is estimated that the twentieth century will see the greater portion of the American continent well nigh denuded of its forests. The disastrous consequences of a dearth of timber in Canada would be difficult to describe ; it would interfere sadly with the further settlement of our country and paralyze our industries.

Stricter regulations are needed to prevent the unnecessary dertruction of timber by the lumberer, and by the forest fires which often arise from wanton carelessness, and entail immense losses. Some measures looking to the replanting of denuded districts should also be introduced.

In the comparatively treeless portions of our great Northwest Territory, a marked improvement in the climate might be effected by judicious and extensive tree planting ; and in all parts of our Dominion endeavors should be made to excite a general interest in this subject, and to create a healthy sentiment in favor of preserving, with greater care, the remnants of the noble forest with which our country was once clothed.

Jacqueminot Rose.—The Jacqueminot rose is one of our most beautiful hybrid perpetuals, being a rich deep, velvety crimson. With winter protection it may be grown in the open ground and will blossom abundantly. Its flowers, however, are not so rich and deep in color as when produced under glass, but are still very beautiful. The are very double and delightfully fragrant.

GRAPES.

The indifference on the subject of small fruits in country places is often surprising. Those who originated and disseminated the Concord, added something of great value to the home resources of this country. People are sure to have grapes who will plant and give even moderate care to a few Concord vines. It is time now to take another step upward, viz. : to teach the people how their dish of grapes may be varied and improved at slight expense. Fondness for good standard varieties is all very well ; but the time has passed for any one to assert that the Concord cannot be equalled or improved. Here are the names of a few varieties which, although not the latest novelties, are every way worthy of attention. I may remind the reader that what I say is true for the latitude of Chester County, Pa., and that in my own 'experience. The vines were trained and trimmed by the Fuller system. Field cultivation might make some difference in my conclusions.

Worden is a Concord seedling which fills the place of its parent, and reaches a little beyond it in every direction. Bunches and berries are finer, the bloom and flavor better, the vine as hardy and productive. So much does it resemble the parent that I am told many Concord vines have been sold under the other name. There is no longer any reason for planting Concords exclusively or even principally.

Moore's Early, a hardy New England variety, was heralded with a great blast of trumpets ; but the public can afford to forgive everything since the grape has proved itself a decided acquisition. The beauty of it is in the single berry, large and fine, the bunch being rather small and loose. Hartford Prolific and Champion (Talman) may now safely be omitted, for this grape easily surpasses them in earliness and general

good qualities. Champion has nothing to recommend it except its rampant growth and productiveness.

Brighton I at first thought a feeble grower; but as wood became more plentiful and nurserymen sent out vigorous vines, it came to be known as an average grower and perfectly hardy. The berries are red or wine-colored, and very sweet, rather smaller than those of the Concord; bunches medium to large. I cannot better illustrate the general verdict than by saying that as a table grape it meets wide approbation. Among twenty odd varieties people will pick the Brighton.

Lady, too, seemed a slow grower at first, but now it is vigorous and hardy. It is a white grape, and liable to be mistaken for Concord by one who did not see its color, but it is rather sweeter. Tested on the table it competes with Brighton for first place. Prentiss thus far is not its equal, but I do not claim to have fairly tested the latter.

Brighton and Lady follow Moore's Early closely in time of ripening, and will easily lap over the time of the Worden. One vine each of these four varieties will cost less than $2, and will do something to convince the most stubborn that American grape culture is making rapid strides.—*Country Gentleman.*

GRAPES FOR COLD CLIMATES.

If we name the Concord, Moore's Early, Worden and Delaware, we have come to the end of those that can be invariably relied on. The Brighton is most excellent, but sometimes mildews and is an entire failure. The Eumelan is less shown than any other equally good grape; last year they were as good as out-door grapes could be. Of Roger's hybrids, the Massasoit and Wilder are among the best; the Lindley is less productive, but when in perfection is as good as any foreign grape. If the Francis B. Hayes continues as good as last year, it will be unquestionably the best white grape and will carry the name of the president of the society down to future generations. The Prentiss is not grown as much as it should be. The Pocklington was not ripe when shown at our annual exhibition last year. For New England we must require earliness. The Concord fails to ripen once in four or five years. Dr. Fisher, one of the best cultivators, lost his crop twice in twelve years.—*Mass. Hort. Society's Discussions.*

THE AMAZON LILY.

(*Eucharis Amazonica*)

Of all the white flowers exhibited at our flower shows, none attract more general and deserved attention than this comparatively new plant. It is a native of Granada, belongs to the Amaryllis family, and requires, for winter forcing at least, hot-house treatment. The flowers, which are produced in trusses of from four to eight, are of rare beauty, chaste in form, pure white and deliciously fragrant, and—what gives additional value to the plant—may be produced at any season of the year. In fact, a dozen of plants properly managed will furnish flowers all the year round.

There are two ways of growing this plant. One, says a writer in *Gardening Illustrated*, is to pot them without division, the way in which large specimens are obtained; and the other is to divide frequently, growing the large bulbs in single pots. The latter plan answers best for room decoration. They may be grown well either in loam and leaf-mold, or in pure turfy peat. To bloom them freely they require a period of rest after a season of growth. This rest is obtained by moving the plants to a lower temperature, and, as they are evergreen, water must never be withheld so far as to cause the leaves

to suffer. In summer the plants may stand a time in the open air, and such plants throw up strong spikes after being placed in gentle heat again.

By following a system of alternate growing and resting periods, several crops of flowers may be obtained in one season; and by growing a sufficient number of plants to have relays always coming on in succession, plants in bloom may always be had. Bottom-heat, where available, is useful for pushing forward sluggish bloomers. They are very accommodating as to temperature, but during the time of growth they should have a night temperature of at least 60°. As they delight in moisture, the pots must be well drained, and if a little crushed charcoal and sand be mixed with the soil, to increase its porosity, it will be an advantage. Clear soot water should be given occasionally when growing freely or blooming.—*American Garden.*

VARIETY IN ORNAMENTAL PLANTING.

There are no good reasons for the prevailing lack of variety in the trees, shrubs, and other materials employed in making American homes attractive. Among the many hundreds of trees, shrubs, and flowers, that are hardy in nearly every part of this country, and which are now kept for sale in the leading nurseries, there is in the matter of flowers alone, for example, a wonderful variety. There is enough difference among these in their season of coming into bloom, to enable one to make a selection, that would afford a wealth of beauty every week in the North from April to October, and for some months longer at the South. Then the variety that is afforded by different forms, habits, and sizes of such plants, the colors and shapes of the leaves, branches, and the ornamental fruits of some, is very great, and adds to their beauty and interest. The evergreen trees and shrubs must also be mentioned for the peculiar attractions they contribute throughout the entire year. Then there are the hardy climbers—a most useful and easily managed class of ornamental plants, and the aquatic, bog, and rock-flowering plants and ferns, all of which possess value for special uses. Besides the hardy kinds, possessing permanent value, there is an endless assortment of annual and perennial plants, raised each year from seeds, bulbs, cuttings, or in a green-house or window-garden, that are easily grown, and which serve to render the garden gay for months in the summer, with their characteristically bright flowers. Now all these things are so easily and cheaply procured in the nursery and seed establishments, that no one who has a plot of land surrounding the house should put off for any length of time, the setting out of a sufficient assortment to amply embellish the place throughout the entire year. To make the surroundings of one's home attractive, will pay in dollars and cents, besides contributing to the enjoyment. The writer but recently attended the appraisement of some ornamental trees, twelve years planted, that had to come away on account of the widening of a street. The amount allowed the owner as a remuneration for individual trees was as high as seventy-five dollars each. The same trees when planted perhaps cost one dollar each, and the labor of setting, say one-half as much more. It was their worth for shade and ornament that governed the price. There are few places where the presence or absence of fine trees and shrubs would not similarly effect their valuation if sold. If there are children, judicious investments in beautifying the surroundings, will afford invaluable returns in cultivating in them a love for and an interest in natural objects; inspiring in them a desire for the study of botany and

natural sciences, than which nothing is more pure and satisfying for young minds. There is much complaint of the inclination of the young to leave rural homes for town life. Nothing would be more potent to arrest this tendency, than to spend some money and time in rendering the home attractive by the means that have been suggested. Resolve to set out and properly attend to a suitable selection of trees, shrubs, and flowers. — E. A. Long, *in American Agriculturist.*

GROWING CABBAGE.

To persons who grow only a few cabbages for private use, there is but little trouble in protecting the plants from the ravages of the worst of all cabbage pests—the maggot.

Among the many market gardeners around Detroit, who annually grow from five to twenty thousand each year, very little, if anything, is done to destroy them. So far as I know there is no remedy against the fly itself, or for the prevention of the eggs being laid, which is the time to destroy the insect. When in charge of the garden at the Agricultural College, I had set out about one hundred early cabbage plants, but was told that they would be destroyed by the maggot. Previous to that year, I had grown a great many cabbage for the Detroit market, and had lost a great many hundred plants every year by the maggot. This caused me to examine more closely the cause, and try such remedies as I thought would destroy the larvæ. By close observation for a few years, I found that the fly which was the cause of the trouble, made its appearance from the 10th to the 20th of May—sometimes later, according to lateness of the season—and that was the time to apply the remedies to destroy them. This I communicated to Prof. Cook of the College, and on the 11th of May of that year the professor made an examination of the plants I had set out, and found a few flies had deposited their eggs, but no larvæ at that time developed enough to do any serious damage. Prof. Cook immediately furnished me with two remedies to be used according to his directions. I divided the row in three parts, using his two remedies on two parts, and a remedy of my own with which I had saved five thousand plants a few years before.

Bi-sulphuret of carbon, and sulphuric acid diluted with 12 parts of soft soap and water, were used on two-thirds, on the other third I used salt. All three remedies proved of great value, for every plant was saved and formed good heads. The mode of using them was as follows: Make a hole one inch deep one inch from the plant, and pour in a quarter of a teaspoonful of carbon, immediately filling up the hole; do the same with the diluted acid, only using a spoonful. Where salt was used I first scraped away the earth from the stem to the depth of half an inch, then dropped around the stem a thimbleful of salt, but did not cover.

Now the real secret of success is to know when and what to apply, and do it in time, for after the larvæ have grown to an eighth of an inch in length, and reach the roots, salt, carbon nor acid will save them. I have tried lifting and replanting, but with poor success, what plants were saved in that way made poor, stunted heads.

Where large quantities of early cabbage—for plants set out the middle of June in this vicinity are not attacked with the fly—are grown, most of them might be saved by hoeing them twice, first about the middle of May, the second hoeing a week or ten days later, each time drawing the earth from the plant with the hoe, and be sure and leave no earth adhering to the stem of the plant above where the hoe has

drawn the soil away. By that means the larvæ is drawn from the plant, and if only two inches away, when hatched, unless they have something to feed on immediately, they will not have vitality enough to reach the plants.—C. A. Lee, *in Michigan Farmer.*

THE WHITE LILY.

By common consent the white lily is one of the most universally beloved of all flowers. Indeed, a large number of plant lovers would not hesitate to place it above the rose—perhaps the only flower which could dispute its sovereignty—as the queen of flowers. In the rude old times it was largely grown, and it has always played an important part both in an artistic and in a symbolical sense. The Rev. Canon Ellacombe, in "Plant Lore of Shakespeare" sums up the merits of the white lily in a few eloquent sentences. He says, "It was certainly largely grown in Europe in the Middle Ages, and was universally acknowledged by artists, sculptors and architects as the emblem of female elegance and purity, and none of us would dispute its claim to such a position. There is no other lily which can surpass it when well grown, in stateliness and elegance, with flowers of the purest white and most graceful shape, and sweet-scented, and crowning the top of the long, leafy stem with such a coronal as no other plant can show." But it is not intended here to discourse on the rare beauties and excellences of this lily, as a volume would not suffice to give even a fair selection of abstracts that might be made concerning it from ancient and modern writers. Since the bedding-out craze has to a very considerable extent abated the gardening public has returned to a better sense of the fitnesss of things, and the white lily has been restored to a position which it should never even have partially lost.—*The Garden.*

BOOK NOTICES.

Rural Record, a journal for the farm, plantation and fireside, published at Chattanooga, Tennessee, at $1.00 a year.

Random Notes on Natural History, is a monthly of twelve pages, including title page and advertisements, devoted to Zoology, Mineralogy and Botany; published by Southwick & Jencks, Providence, Rhode Island, at 50 cents a year.

Report of the Fruit Growers' Association of Nova Scotia, 1884, in which is a paper by the Rev. Robert Burnet on apple growing in Nova Scotia, in relation to the money question, from which it appears that he carries to his new home his interest in fruit culture. A paper on the apple trade with Great Britain, page 29, states that a company has been started in Annapolis for the purpose of exporting apples to Great Britain.

The School Supplement for June contains interesting notes of the life of Thomas Carlyle and George Eliot, with likeness of each. It is natural that the writer of such notices should fall into the popular channel of indiscriminating praise, but for ourselves we object that the writings of George Eliot are on the whole, not to be placed in the hands of the young as fit models of thought or diction.

Proceedings of the American Pomological Society at its nineteenth session, held in Philadelphia, Sept. 12th, 14th, 1883, with an excellent portrait of its venerable president, the Hon. M. P. Wilder. This document, of some 150 pages, is filled with matter of interest to every intelligent horticulturist. The paper by Prof. J. L. Budd, on fruits for the North West, will be worthy of the attention of planters in Manitoba and Quebec.

OUR OLD APPLE TREE.

What ails this weary heart o' mine
What brings the tear draps to my 'ee?
'Tis the memory o' Auld lang syne
And my bairnies bonny apple tree.

I had but one in our kail yard
The queen o' all her kind was she,
Planted by Glen-Gowan's Laird
Lang e'er the birth o' John or me.

It had nae braw newfangled name
As "Bietigheimer" or sic like,
But was a tree o' guidly fame
An proudly nodded o'er the dyke.

(The diel ne'r seowed a finer apple
To gar our mother fa' frae grace,
An leave its mark on Adam's thrapple
And a' the Sons o' Adam's race).

Oft do the tears come welling o'er
My furrowed cheeks, while in my sleep
I see my bairnies, as of yore
Happy darlings on that seat.

Under the dear auld apple tree,
Where my guid man, on Sabbath days
Forgether'd wi the weans an' me,
To tell o' wisdom's pleasant ways.

"Now they are women grown, an' men."
Some gae'd east, some wander'd west,
An' some below the mools were lain
Wi my guid man in peaceful rest.

The years o' Pilgrimage ga'en me
Is dawning on three score an' ten,
Still 'neath that bonnie apple tree
I see my bairnies young again!

GRANDMA.

THE SHAMROCKS.

"Here gran'ma here's a present, it has come a distance, too,
'Tis a little pot of shamrocks and it comes addressed to you;
Yes, all the way from Ireland, and the card here mentions more—
They were gathered at your birthplace on the banks of Avonmore."

"From Ireland! do you tell me? O, darling, is it true?
Acushla, let me feel them—and you say 'twas there they grew?
Why, I can scarce believe it; is it really what you say?
From my birthplace in old Ireland! poor old Ireland far away.

"I'm old and stiff and feeble, and in darkness, God be praised,
Yet, Katie, how it starts me, how my poor old heart is raised,
To feel it here so near me, the soil that gave me birth,
The very clay of Ireland; let me kiss the holy earth.

"These blessed little shamrocks! I can't see them, yet I know
They bring me back the eyesight of the happy long ago!
And gleaming through the darkness comes the vision that I love,
The dark green fields of Ireland and the sunny sky above.

"I see, as I onee saw them, when a girl like you I stood
Amid the furze and heather; there's the chapel, hill and wood;
There's the abbey clad with ivy, and the river's winding shore,
And the boys and girls all playing on the banks of Avonmore.

"God bless the little shamrocks then, for bringing back the scene,
The beauty of the sunshine, the brightness of the green;
Thro' long, long years to see it, and see it all so plain,
Ah, child, I'm sure you're smiling, but I'm feeling young again.

"And then I'm truly thankful for the blessings that God's hand
Has brought around me, Katie, in this great and happy land.
I can't forget the old home, 'midst the comforts of the new,
My heart is three parts buried where those little shamrocks grew."

BUTTER-MILK AND WATER AS AN INSECTICIDE.—To get rid of the cabbage-worm I have successfully used butter milk and water the last two years—about one-third of the former to two-thirds of the latter. My cabbages were also badly infested with lice, but two applications freed them completely, The brown and yellow striped bug, the great pest to cucumber and watermelon vines, will do no damage if the vines are occasionally sprinkled with the mixture; but I think they require sprinkling oftener and with a stronger solution of butter-milk than the cabbage.—W. C. C. *Rural New Yorker.*

THE PEA-BUG. — Mr. T. Coryell, of Whitby, Ont., grows six hundred acres of peas, which he chiefly sells to American seedsmen. For the pea-bug coal oil is the specific, a gallon and a half for sixty bushels. The seed to be purged of bugs is spread in the bottom of a bin to the depth of a few inches. Then with a fine watering can, the spout of which is flattened and perforated on the under side with fine holes, the oil is applied. Very little does for a depth of three inches; the rake soon covers all the peas with a coating of oil. Then a second layer is put on and similarly treated. Mr. C. says that his experiments show that not a bug survives the sixth day, and the vitality of the peas is not the least impaired by the oil.

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPP, CLARK & CO. COLBORNE STREET TORONTO.

LOMBARD PLUM.

PAINTED FOR THE CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

VOL. VII.] AUGUST, 1884. [No. 8.

THE LOMBARD PLUM.

This old variety continues to be one of our most valuable sorts, especially for those who grow plums for market. It is said to have been raised from seed by a Judge Platt, of Whitesboro, New York, from whom a Mr. Lombard, of Springfield, Massachusetts, received it, and brought it to the attention of fruit-growers in that State. Out of compliment to him for bringing it into notice, the Massachusetts Horticultural Society named it the Lombard, by which name it is now generally known, although it was, even before that time, cultivated by fruit-raisers on the Hudson River, and called there Bleecker's Scarlet

The trees of this variety are very healthy, vigorous and hardy in those regions adapted to the cultivation of this class of plums, and extremely productive. The fruit may be said to be of medium size and of a delicate violet red colour, covered with a thin bloom. The flesh is of a deep yellow, not rich, but juicy, and of a pleasant flavour. It ripens here in the beginning of September. Large quantities have been raised at Owen Sound and shipped from thence to the city markets.

The cultivation of the plum for market by our fruit-growers has been attended with serious difficulties, which have discouraged most persons from making the attempt. The curculio or plum weevil, a little insect with which most of our readers are already too familiar, has been so destructive to the fruit, which it punctures and then deposits its eggs in these punctures so that the young larvæ may feed upon the growing plums, that the crops have been ruined by them wherever they are numerous. Fortunately the vicinity of Owen Sound has hitherto been exempt from this troublesome insect, so that plum-growers there have not had to contend with this enemy. In other places they have been obliged to resort to some method of getting rid of these insects. The most effectual is that of spreading a sheet under the tree, giving it a sudden jar, which causes the insects to fold their legs close to their bodies and drop to the ground, and then gathering them from the sheet upon which they have fallen and destroying them. In addition to this, the plums that fall prematurely are gathered and thrown into the fire, or scalded, so as

to kill the larvæ that are in them before they escape from the plums and burrow in the ground. The cost of the labour involved in thus catching and killing the curculio is but a small matter in comparison with the value of a crop of plums.

The Black-Knot has been another source of discouragement. These excresences are believed to be caused by the attacks of a fungus. In some years they have been very prevalent, and so overspread the tree as ultimately to destroy it altogether. The only remedy that has yet been tried is that of cutting off the affected branches and promptly burning them, so as to destroy the spores of the fungus and prevent them from spreading. Sometimes the excresences become so numerous upon the tree that nothing remains but to dig it up altogether and burn all the affected parts.

Yet with all these evils to contend with, the watchful and painstaking cultivator has found a plum orchard a remunerative industry, perhaps, in some measure, because careless cultivators abandon the enterprise.

OBITUARY.

The venerable President of the American Pomological Society will receive the heartfelt sympathy of every pomologist in this and other lands, in the very sore bereavement that has befallen him. His son, Marshall P. Wilder, jun., a young man possessing noble qualities of mind and heart, united to fine executive abilities, died at his father's residence, Dorchester, Massachusetts, on the seventh of June last. While this blow falls with crushing weight upon his family and near friends, the loss is one in which all lovers of horticulture will participate, for in him were centred the expectations of all who hope for a continuation of the horticultural experiments which have made the orchards and grounds of the parental homestead famous throughout the world.

THE GREAT WORLD'S EXPOSITION AT NEW ORLEANS.

It is already announced that there will be a cheap excursion from Ontario to this great exhibition some time in the early part of next winter, with privilege of remaining as long as the exhibition lasts. Those wishing to go can obtain full information from Mr. H. J. Hill, Toronto.

QUESTION DRAWER.

ROSE SLUG.

There is some slug destroys my rose-bushes yearly by destroying the leaves, which spoils the bloom for the season. Please send me a remedy.

Which is the best way of making a grape trellis so as to lay it down in winter and not injure the vines?

JOHN LAING.

REPLY.

The rose-slug can be kept in complete subjection by the application of hellebore in the same manner as it is applied to currant bushes to kill the currant saw-fly. An ounce of powdered white hellebore mixed in a pailful of water and sprinkled freely on the rose-leaves, will soon rid the rose-bushes of this pest.

In the May number of the *Canadian Horticulturist* for this year, on page 107, Mr. Allan McIntosh gives his plan of making a grape trellis so that the vines can be laid down at the approach of

winter. We should be pleased to receive any information on this point from others who have had experience in the laying down of grape vines and protecting them in winter.

CAN VINEGAR BE MADE FROM RHUBARB?

Dear Sir,—Do you know of any process by which the juice of the rhubarb can be converted into vinegar? By replying through the *Horticulturist* or otherwise, you will much oblige.

Yours very truly,
A. H. Wismer.

Box 55, Port Elgin, Ont.

DISEASED PEAR TREES.

Dear Sir,—I am somewhat alarmed on account of so many of my pear trees turning yellow; some appear dying and I think will die. Some trees have partly yellow leaves and partly green; some limbs quite dead, and on three or four large trees that have borne for years the leaves and pears are about dead, and the whole trunk of two trees is dead from top to bottom. I could pull the limbs off quite easy; they broke short off which revealed the rotten trunk. This is rather alarming if at all general. If I am alone the sufferer, not so bad; better for one to suffer than many. But what is the cause? My soil is made out of decayed cedars; if they decay a sort of bog turf would burn in dry weather; have seen it burn under ground for weeks; not since well cultivated. I find every one or more high cedars that damages the garden every time they are got out, and it is desirable to get them out, as trees seem to die where the roots touch them after first turning yellow. Though these have borne fruit of all descriptions, including apricots and nectarines; the latter but twice to ripen—they rot on the trees. If you can throw any light on this apparent blight by controversy, or of your own knowledge, it would do much good.

Yours truly,
C. Jarvis.

BLACK ANTS.

To the Editor of the Canadian Horticulturist.

Sir,—We are badly pestered by the black ants about the house this summer. Can you kindly advise me how to get rid of them. I sometimes see them running over the trunks and limbs of the apple trees, but I am not certain that they do any harm. I once noticed a large black ant in the very heart of an apple blossom, but I cannot say it was doing more harm than a bee would have done. In Italy they encourage the presence of the large black ants in their orchards; they are said to destroy the eggs and larvæ of insects deposited in the crevices of the bark. The ant hills are great eye-sores in gardens or lawns, but they may be got rid of by covering the top of the hill with hardwood ashes.

I remain, Sir, sincerely yours,
Charles Julyan.

Sarawak, Co. Grey, 17th June, 1884.

STRAWBERRY SUN-SCALD.

We have received the following inquiries concerning this affliction:—

Dear Sir,—I am studying the fungoid diseases of the strawberry, and would be much obliged to you for answering the following questions:

1st. Does the "rust," "blight," or so-called "sun-scald" cause any serious damage to the strawberry crop of your section? If so, what is the estimated per cent. of loss for the years 1882 and 1883?

2nd. Do you recognize more than one form of "rust?" If so, describe briefly the appearance, season of attack and damage done by each.

3rd. Do you ever find the roots and crowns, especially in old fields, covered by a white mould?

4th. What effect do differences of soil and cultivation have on the "rust?" Are mulched or unmulched fields most liable to injury?

5th. Which varieties are most and which least affected?

6th. Is this disease increasing?

7th. What remedies have you tried, if any, and with what result?

Yours very truly,

F. S. EARLE.

Anna, Ills., April, 1884.

If any of our readers are so unfortunate as to have sufficient experience of this trouble to be able to answer any of these inquiries, we shall take a pleasure in publishing them in the *Canadian Horticulturist.*

CORRESPONDENCE.

FRUIT GROWING IN MANITOBA.

SIR,—I see that grave doubts are entertained as to our Great North-West ever becoming a fruit producing country, and that in consequence many are very reluctant to leave the fine fruit growing regions of Ontario for a land on which they may never have the pleasure of raising the very hardiest of apples. I must confess the picture has a sorrowful appearance. I beg to state that I have had some experience in that very interesting country and submit a few facts for your consideration: Two or three years ago, *en route* for Battleford, by the way of Winnipeg, Lake Winnipeg, and the great Saskatchewan River, I had to stay a few days in Winnipeg waiting for the steamer, and while there I wandered about the city in different directions; one of my rambles was up East Ballandine street, in which is the residence of Mr. Ballandine, and in his garden are a few apple trees, perhaps about six feet in height, and say two inches and a half through the stem, with just enough live wood in them to let you see that they are alive, their appearance would indicate that most of the wood that was made in the summer was killed in the winter, as the trees were full of dry limbs and presented a wretched condition, but when you take into consideration the low black soil in which they were planted, you would almost wonder if they would thrive even in Ontario.

Having been some time employed as Farm Instructor on two different Indian reserves, in the vicinity of Battleford, and lastly as Farm Instructor to the Industrial School of that place, I have had the opportunity of seeing young seedling apple trees growing in a very thriving condition, two years old, and I think in one case three years old, I did not see a dead branch on any of them, and they appeared as vigorous as any I have seen in Ontario. The lands in that part of the country are high and rolling, and although farther north and west than Winnipeg, the winters are not as cold, and then not having much fall rains the wood gets thoroughly ripe before the winter sets in, so that taking all things into consideration I should say that country is about on a par with the early days of Ontario, when the early settlers brought their apple seeds from the States and had fine fruit, as it was many a long year before a grafted tree was ever seen in the country.

Last year we had a slight frost on the 21st of August, which was very uncommon, but unprecedented frost prevailed all over Ontario at the same time. The year before we had no frost until the morning of the 8th of September, and very slight at that, and then again on the 29th a little heavier, but not the slightest summer frost in June, July and August.

Small fruits, such as the wild black currant and the wild red currant, and raspberries and strawberries are of large

size. Mr. Scott, of Battleford, said he weighed his fruit, currants, which amounted to sixty pounds. I often saw them when growing, together with rhubarb and most all kinds of garden vegetables, with a great variety of flowers. He asked me what I thought of his garden, or did I expect to see such in the North-West. I told him I was most agreeably surprised and wished some more of the Ontario people could see it.

Wishing the *Horticulturist* every success, as it richly deserves.

I am, dear Sir, your well-wisher,

TIMOTHY CHAMBERS.

Presque Isle, July, 1884.

BLACK BIRDS.

Aye, black-birds, Mr. Editor! Don't talk to me about sparrows, their depredations are but as a drop in the bucket compared with these villains. Their conscience, if they have any, is as black as their backs. I had half an acre of these best of all peas, Bliss' American Wonder; it would have done your eyes good to see, and your teeth water to taste them. They were all sold on the ground, but I was sold too. "Many a slip between the cup and the lip." In about three days these vagabonds left me nothing but the shells. They came not by the score, like the puir wee sparrows, but by the thousand. Ask that worthy President of ours, who knows the name of everything living, what their proper name is; but they don't deserve a name unless its one worse than I can invent. Ask our good friend Goldie, if with all his liking to the feathered tribe; and it would do you good to see his beautiful collection; I had that pleasure, but I saw no black-birds there; long may he be spared from them; ask him if he has a word to say in their favour. Why don't you shoot them, perhaps you say. All the powder and shot in our township would'nt do that. I bought me a bran new gun and fired away at them till I was tired; they only chirped at me in disdain. Ask the President again, will Paris Green, Hellebore, London purple, or any of the life extinguishers he knows of exterminate them, and how shall we apply them. I fancy his reply—just what our nurses used to tell us; put ice on their tails. Now some of your readers will say I have given you just such a bird story, as our friend (I forget his name), did at our last meeting, on pruning; but I feel that mine is not exaggerated. I think he will admit his was a little. Just such another chapter I could give you on weeds. The weather for the last few weeks has been far more favourable to their growth than to our tempers. Be at our President again, ask him if he knows the name of one in a hundred that yields to our hoe; I'll be bound he does; I don't. Of course berries of all kinds share the same fate as our peas. Verily the lines have not fallen to us in pleasant places.

JOHN CROIL.

Aultsville, July, 1884.

DUCHESS D'ANGOULEME.

I am sure I feel exceedingly gratified and honoured by such a full insertion of my letter to you describing the state of my orchard, both new and old.

Regarding the question you kindly ask me concerning my Duchess d'Angouleme pear trees, I may say that my impression is that the trees are growing so fast that they cannot form blossom buds; this I think is borne out by the appearance of the trees at the commencement of spring, when they seemed as though they were thickly studded with spines and thorns, which as spring advanced developed into leaf buds. The drought of June has seriously

affected some of my pears and plums, but my apples are flourishing well. One Flemish Beauty pear tree close to the Duchess d'Angouleme tree is laden with fruit. My apple crop will be very light, but cherries and plums, for the number of bearing trees, will be very plentiful. Potatoes are doing well here and have escaped the bug fairly well so far. The root crops, carrots and onions in particular, are very poor. What corn I have seen planted here looks very flourishing. Thanking you for bringing our section of the country into prominence by the insertion of my letter, as it is at present not much known from being so recently opened up, believe me,

I remain yours sincerely,

E. A. CARVER.

Colpoy's Bay.

REPORT FROM THE COLD NORTH.

MR. EDITOR,—Another year having completed its course, I herewith hand in my report of last winter's inroads on my already too limited list of "Hardy Fruit Trees." The past season was quite as severe as any we are likely to have, and proved to be a real test-winter for our locality.

Notwithstanding the intensity of the cold, the mercury freezing in the bulb of the thermometer, the Wealthy, Duchess of Oldenburg, Yellow Transparent, Tetofsky, Scott's Winter, Peach of Montreal, and Alexander, with me all came through without the loss of a single bud. I hardly know what to say of Magog Red Streak, as it was somewhat affected, but still it is fruiting and I have good hopes that it may yet come out all right.

I fear, however, that we shall be obliged to strike the McIntosh Red from the list that will endure a temperature of 40° below zero, as last season proved them to be among the list of almost-hardy-enough varieties. It is only fair to state that none of these in my orchard are dead, but with one single exception all are more or less injured. Perhaps we should give it another trial before we discard it altogether. The following, however, went completely, viz., Mann, Stump, Snow, Hastings and Haas. I might mention that at the meeting of our Local Association, held last week, very favourable reports were given in of the Pewaukee and Walbridge.

PLUMS

In these the inroads have been numerous indeed.

First of all that "tree of trees," the one upon which we in the north had been induced to count so much, viz., the Moore's Arctic, have every one died to the ground. My Green Gages have also all gone to accompany them, as well as my most promising Lombards, and my healthy and vigorous Coe's Golden Drop.

Prince Englebert tried hard to weather the storms, but it eventually failed and had to be rooted out. My White, as well as my Red Magnum-bonums, sharing the same fate.

Of all my stock one alone is left unto me, and that one, though not in by any means too promising a condition, is Glass' Seedling.

Now, if any of your readers have a blue, white or yellow plum that will withstand a temperature of 40° below zero, I for one would be pleased to have them state the fact in the *Horticulturist* that I may go and purchase one likewise.

The Russian Mulberries, I fear, are also too tender, as the two I have and the one owned by another gentleman here have all been killed back more or less every year for three years. I now well nigh despair of ever tasting any of this fruit of my own growing, although they may finally get acclimatized and do better than they have hitherto done.

Late frosts have done considerable damage to all my fruit trees, and what at one time promised to be a good fruit year has been sadly injured.

Yours, etc.,

A. A. WRIGHT.

Renfrew, Ont.

IRRIGATION.

A paper on the subject of irrigation was read by Col. Henry W. Wilson, before the Massachusetts Horticultural Society, which was received with marked interest and attention. The writer concluded his very exhaustive essay with the following summary : —

It is very evident from common experience that injurious droughts are increasing in frequency, and the careful consideration of the subject will develop the following simple but significant truths :

That whatever the cause of this deficiency of moisture, the simplest and cheapest remedy at the hands of the agriculturist is irrigation. That whenever a supply of water can be obtained, the cost of pumping it will not exceed three cents per thousand gallons for an amount of ten thousand gallons per day pumped to a height of fifty feet above the surface of the water, which cost will include the necessary repairs and depreciation and interest on the cost of the necessary fixtures and reservoir.

That should a brook or spring not be available, there are but few places where an adequate supply may not be obtained by sinking wells.

That the cost and arrangement of the work will vary so much with the different locations and circumstances that no schedule of cost can be given, but the cases will be rare where $750 to $1,000, discreetly expended, will not furnish ample water for the irrigation of fifteen acres of tillage land.

That the preservation of a single crop, in a year of unusual drought, would reimburse the whole expense.

That the positive assurance of immunity from the effects of drought should induce all cultivators to secure at once the means of irrigating their land if possible.

That besides the security afforded in the case of an excessive drought, it will be found that water can be used very profitably in almost any season with a great variety of crops. And lastly—

The great wonder is that our farmers and horticulturists have disregarded the matter for so long a time.

EXPERIMENTS WITH CELERY.

N. Y. AGRICULTURAL EXPERIMENT STATION.

One of the most popular, perhaps, with the exception of lettuce, the most popular of salad plants, is celery. It is not many years ago when celery-growing was one of the mysteries of gardening, so far as current opinion went, and the carefully-grown plantings were transferred to deep trenches at the bottom of which much manure had been spaded, while a laborious process of earthing up was successively pursued. Market gardeners, however, who are usually the first to introduce new processes of growing, on account of the competition they have to meet, found that the celery grown upon the surface and earthed up once for all at the latter part of the season, furnished profitable results, and this latter method seems now mainly the one pursued for commercial purposes. In the private garden, however, the trenching is in many cases continued, and it, therefore, seemed to us desirable to know the comparative merits of these two methods, for if surface planting is equal in its product to the trench planting, it is far to be preferred on account of the less labor involved.

Our list of varieties included twenty named samples: 100 seeds of each were planted in boxes, April 11th and 12th, and placed in a cold frame, where they were covered during severe weather. On July 5th thirty of these plants were set in a trench, one foot deep, well manured at the bottom with thoroughly-rotted horse-manure, and thirty plants were planted adjacent upon the level without special manuring.

The first data noted was that the varieties of celery required from twenty-six to twenty-eight days to vegetate their seeds, and 100 seeds produced upon the average fifty-seven plants, the variation between varieties being 16 per cent. of vegetation for Seymour's Solid Red, and 81 per cent. for Giant White Solid. Averaging our results obtained in seventeen samples in which the varieties from the two rows are separately noted, we find that, omitting fractions, plants grown under level culture averaged 177 pounds per hundred plants, while those under trench culture averaged 178 pounds per hundred plants. The length of the bleached stems was rather greater and the suckers were more numerous upon the plants grown in the trenches, but on the other hand, the bases of the stems were more often split and deformed than occurred in the plants grown upon the level. It appears, therefore, from this trial that the trench culture yielded no advantage for the increased labor involved.

E. Lewis Sturtevant, *Director.*

The Young Naturalist, devoted to natural history and the interests of collectors, is published monthly at Galesburgh, Illinois, at fifty cents a year. We believe it is the only publication of the kind and will be appreciated by collectors in natural history.

STEVENS' RARERIPE PEACH.

Mr. S. Willard, of Geneva, N. Y., states that this valuable peach was called to his attention by a letter written by the venerable Chas. Downing, in which he spoke of it in the very highest terms as a profitable market variety, saying that "the peach growers a few miles north of here received the most money last season (1881) from Stevens' Late Rareripe. Mr. Allen Rhodes sold of this last kind one basket for $8, two baskets at $7 50 each, eleven baskets at $7 each. Each basket contained fourteen quarts. This Stevens' Rareripe is a new name to me, but Mr. Rhodes says he has grown it ten years."

The tree is a very vigorous grower, comes into bearing the second season after transplanting and yields immense crops. It has proved its ability to resist severe cold and fruit freely "off years" when most other varieties yield no fruit.

The fruit in appearance somewhat resembles an enlarged and remarkably high colored Old Mixon Free, far surpassing in beauty any painted picture. In flavor as well as in appearance it is superb. It begins to ripen with the last of the Late Crawfords, and continues from three to four weeks. Freestone, white fleshed, juicy and high flavored.

L. I. Hasbrouck, of Ulster county, N. Y., says: "My neighbor, Mr. Allen Rhodes, has some trees of the Stevens' Rareripe Peach. In 1881 they sold as high as $8 a basket in West Washington Market, New York. The baskets were small. They are the finest peaches I ever saw and will sell at good paying prices even if there should be a glut in the market."

James DeGraff, of Ulster county, says: "I am growing the Stevens' Rareripe and think more of it than any other peach. I sold some at $6 a

basket when other peaches were selling at $3 a basket."

Allen Rhodes, of Ulster county, says: "I have about fifty varieties of peaches. Stevens' Rareripe I have grown for eleven years. It resembles Old Mixon Free nearer than any other peach, a little darker blush. The true report of my success with ninety-five trees is this. 143 baskets containing fourteen quarts each, were sold by G. Furman & Co., West Washington Market, for $721. The tree is a very vigorous grower, bearing at two years old, ripens with the last of Late Crawford and continues some weeks."

DESTRUCTION BY LATE FROSTS.

Late frost is a constant menace to the cultivator. He has transplanted his tender plants from the hot-beds; his peach trees have their buds just ready to open: his grape-vines are pushing their tender shoots, and in one hour the prospects of a season may be ruined While late frosts do not bring destruction every year, they come so frequently that it would seem to be worth while to take all possible precautions to prevent injury by them. When the night is cloudy frost is not feared. The curtain of clouds prevents the heat passing off into space. In a small garden it is not difficult to protect the tomatoes and other tender plants. Newspapers are always at hand, and are quite as effective as blankets. The farmer will say that it is impossible to protect his plants by the acre. We are not so sure of that. In some of the French vineyards vines are protected by the acre, but they are planted and the trellises are built with a view to this. If the means are properly considered and the appliances kept in readiness, it would not be impossible to protect melons and tomatoes by the acre. For the orchard and vineyard smoke is the most available protection. It has long been used with success in the vineyards of Germany and should be tested in this country. When a frost is apprehended let materials be provided, and a watch set, whose duty should be to call sufficient help to promptly start the smoke. A ready method of raising a smoke is to throw damp straw upon a fire. Probably experiments will show that tar, petroleum, or some other such material will afford a more efficient method of making a smoke than straw.——Dr. Thurber, *in American Agriculturist.*

CATALPA SPECIOSA.

It is the intention of the Directors of the Fruit Growers' Association of Ontario, to give to any of its members an opportunity to plant a small tree of this hardy variety of the Catalpa who may wish to give it a trial, by placing it among the articles to be sent out in the spring of 1885. We, therefore, commend to their attention the following article from the *Prairie Farmer.*

Much has already been said relative to the Catalpa Speciosa, but as it is no longer an experimental tree for forest planting, its merits can not be too well known. Its valuable lasting qualities are not only being recognized by our farmers for fence posts, but many of our railroad corporations have been convinced of its great value as a railroad tie, and are planting it largely for that purpose.

The fact that most of the information we have was gathered and disseminated by the late E. E. Barney, an extensive railroad car builder of Dayton, Ohio, assisted by Robert Douglass, John C. Teas, and the late lamented Dr. John A. Warder are strong proofs of its great value.

Much of the information gathered

by these able men has already been published, but as forest tree planting is becoming almost as much of an object as stock raising these facts can not be too often presented. In one of Mr. Barney's publications we learn that Gen. Wm. Henry Harrison knew the valuable qualities of the catalpa, and forcibly called attention to its importance and urged its extensive planting for timber in an able address at an agricultural fair near Cincinnati, more than fifty years ago. Speaking of its lasting qualities he told of a catalpa foot log over a small stream in the Wabash country that had been in use more than one hundred years ; he chopped into it and found it to be sound. He spoke also of the old French fort built at Vincennes, Ind., in 1702, being largely of catalpa, and in 1808 (more than one hundred years afterward) while he was Governor of the Northwestern Territory, and located at the same place (Vincennes) he found much of the timber in this fort sound enough to use for other purposes. Perhaps it was this circumstance that first called his attention to its lasting qualities, for in fencing the ground about his mansion at that time (1808) he used principally catalpa posts.

This fact was called to the attention of D. C. Burson, of Topeka, Kansas, by Dr. Jno. A. Warder a few months before his death, and as Mr. Burson wished to gather all the positive proof he could of its lasting qualities, he went to Vincennes in the summer of 1883, and called upon Mr. Pidgeon, who has been living in the Harrison mansion for some twenty-five years, and also upon Mr. E. Tink, who owns a portion of the Harrison estate. This gentleman showed him some of these old Harrison posts, and very kindly gave him permission to remove one from the fence ; also a portion of a picket post which was used by the General as a stockade against the Indians before his treaty with Tecumseh.

Another additional value in connection with the lasting qualities of this tree is that it is a fast grower, making on an average three-quarters to one inch in diameter per year ; consequently it will take but five or six years to make a good fence post, or but eight or ten years to make a good railroad tie.

Besides what is said of its value as a timber tree in the foregoing article, it may also be added that it is a very handsome ornamental tree, bearing large panicles of showy flowers, succeeded by long, pendant seed pods that give to the tree a singular and at the same time attractive appearance.

EARLY PEAS.

N. Y. Agricultural Experiment Station.

The obtaining of an early crop of peas is not only a satisfaction, but often a profit, and it is hence desirable to examine into various methods whereby earliness can be increased. Two systems of management are at once suggested, the one the treatment of the seed, the other the selection of the seed.

On March 21 a few American Wonder peas were placed to sprout in a box of moist sand in the greenhouse. Germination soon occurred, and it was soon evident that we had commenced operations too early for transferring the seed to the soil, hence when the radicle was about an inch long, the box containing the seed was removed to the cellar in order to check further development. On April 14, a row was planted in the garden of these peas, selecting the most advanced, and at the same time a second row was planted with unsprouted seed for comparison, the seed of each row taken from the same package. The sprouted seed vegetated April 25, the unsprouted seed April

28. The first bloom appeared on the first row on May 26, and on the second row May 31. On June 10, twenty-five pods were of edible size on the plants from the sprouted peas, and it was not until June 18 that an equal number were of edible size on the plants from the unsprouted seed. This process of planting, hence, appears to have given us a gain of eight days in the maturing of the crop, and when it is considered how little trouble this sprouting necessitates, it seems proper to recommend this system to the amateur, and to call the attention of the market grower to the possibility that the extra labour required may be off-set by the resulting earliness.

In seeking earliness through the selecting of early varieties, the question at once meets us as to which is the earliest variety. As the earliness is affected by the date of planting, or in other words the temperature or climate, an answer to this question does not at once occur. Thus in 1882 the Earliest of All was fit for the table in fifty-four days from the early planting; in 1883 required sixty-one days for the early planted and forty-five days for the later planted; in 1884 required fifty-four days for the early planted.

In our 1884 trials, the peas were planted on April 28, and Cleveland's Rural New Yorker had its first edible pod in fifty-one days; Daniel O'Rourke in 52 days; Dexter, Ferry's Extra Early Market in fifty days; Earliest of All, American Wonder, Caractacus, Carter's First Crop, Express, Prince Albert, and a seedling from Messrs. Bliss, No. 72, in fifty-four days.

By referring to the following table of order of ripening, it will be seen that the order of succession is not uniformly the same with different plantings, or in different seasons, and we may conclude that among these first earliest, where such little difference in earliness is found, that variety which is the better to grow must be decided upon other considerations, such as size of pea, prolificacy, habit of cropping, &c.

Variety.	1883. Planted April 21.		1883. Planted May 12.		1884. Planted April 28.	
	Edible	days	Edible	days	Edible	days
Earliest of All	June 21	61	June 26	45	June 21	54
Kentish Invicta	" 22	62	July 3	52	" 20	53
Ferry's Extra Early	" 22	62	" 1	50	" 20	53
Carter's First Crop	" 23	63	June 30	49	" 21	54
Daniel O'Rourke	" 23	63	" 30	49	" 19	52
Early Alpha	" 23	63	July 1	50		
American Wonder	" 24	64	" 1	50	" 21	54
Blue Peter	" 24	64	" 1	50	" 24	57
Carter's Pet. Gem	" 24	64	" 5	54	" 23	56

An examination of this table makes it quite evident that more than one year's record is necessary to establish a variety as the earliest of peas.

E. Lewis Sturtevant, *Director.*

SEEDLING PEACH TREES.

"The idea often prevails that a seedling tree is healthier than a budded one. If we were assured that seedling trees would invariably come true, never have the yellows, never overbear and become exhausted, never be attacked by the peach borer or any other enemy, and would bring as high prices in market, why then of course we would all raise seedling varietes and no other; but this is not the case in any one of the above suppositions. Many years ago I planted

a seedling orchard, seed being obtained from what I supposed to be excellent sources, and of very choice seedlings. I planted the seed just where each tree was to grow, so no transplanting was necessary. I fancied I was doing just the best thing possible, but on one side I put one row of budded Mountain Rose peach trees which were transplanted, and, strange to say, that transplanted row outlasted all the others, and yielded four times the profit of the seedling trees.—P. M. Augur, *Conecticut State Pomologist, in N. Y. Tribune.*

RASPBERRY GROWING FOR MARKET.

At the last meeting of the Mississippi Valley Horticultural Society, held in Kansas City, Mr. N. Ohmer, of Dayton, Ohio, read an interesting paper on this subject, from which we extract the following, as being of interest to our readers :—

Raspberries are attracting more attention at this particular time than ever before. I have grown the raspberry for market now twenty-six years, but never to the same extent as at present. I now plant largely of them because I find their culture profitable.

THE CONDITION OF SUCCESS.

To grow raspberries successfully, you must select good soil, well underdrained; let it be clay loam or sandy loam, but prefer upland clay loam. I have known them to do admirably in almost any soil, provided it is rich and not wet. Plough as you would for any other crop, the deeper the better if your soil admits of it. Harrow well; plough out furrows six or seven feet apart, and plant in said rows three feet apart—a partial shade I find to advantage. My patches that do best are in an old orchard.

BLACK RASPBERRIES

are usually planted shallow, an inch or two deep. If it is your intention to tie up you canes, that is deep enough; but if you wish them self-supporting you must plant them so that by after culture they will be at least three to four inches deep, otherwise they will not be self-supporting. By so planting and pinching back, as hereafter described, I never have trouble about my canes blowing, or falling down by the weight of fruit.

The first year's growth I pinch back when eight to ten inches long. The second year, and every year thereafter, I pinch back the tips of the growing shoots when from twenty inches to two feet high. They then cease to grow in height, but throw out laterals in all directions, balancing and supporting the main stem effectually. The following spring, early in the season, I cut back all laterals with hand pruning shears, leaving them from one foot to two feet long, according to the number and strength of canes in the hill. This operation is quickly done and inexpensive. After pruning, I gather and carry out and burn all the *debris* between the rows. I then cultivate, first with a double shovel or barshear plough, then in time with a cultivator, as often as it is necessary to keep them clean, free from grass and weeds, up to August, after which I let them rest. It is not a good plan to cultivate too late in the season; you thereby cause them to grow too late to mature the wood sufficiently to withstand the cold of winter. I plow and cultivate them three to four inches deep. You need have no fear of injuring the roots by so cultivating.

RED RASPBERRIES

I plant the same distance as black, three by six feet. This takes 2,420 plants to the acre. I do not cut back the canes of red varieties (as I do the black) until the following spring, except strong growing varieties like the Turner, Shaffer's Colossal and others of like character. These I cut back

during the season of growth, when about three feet high; otherwise they may grow to seven or eight feet, as I have seen them grow, necessitating the cutting away of too much wood in the spring. Treat suckers between the rows as you would weeds, unless you want plants; cut them out when young and tender. Sprouts, or suckers, are a great annoyance in growing red raspberries. If taken in time, they need scarcely any care. Red raspberries, to do their best, must be kept in hills, same as black. This can be done by cutting away with a sharp hoe all sprouts, when young, between the hills in the rows, allowing from four to eight canes in the hill. Many growers allow them to grow all along the rows, although not too thickly.

OLD CANES.

There is a difference of opinion among raspberry growers as to the best time to cut away the old or bearing canes. I have tried both methods, namely: letting the old canes remain all winter and cutting them in spring, or cutting them as soon as I can find time after fruiting, carrying out and burning them. I am satisfied that by adopting the latter method, I destroy many noxious insects, worms in various stages of life, that would live over winter were I to practice the other system. It is argued that the leaf of the old cane has much to do in the growth of the canes that are to bear fruit the following season. I take no stock in that opinion. If your plants are in good condition there will be leaf enough on the young canes to mature them without the assistance of the leaf of the old canes that have already performed their functions by maturing the crop of berries just gathered. Then, again, the old canes are certainly not ornamental. Having an eye for the beautiful as well as the useful, I get rid of them as soon as I can after the fruit has been gathered.

TYING UP CANES.

For a long time I advocated and practiced the tying up of canes, first to stakes, then to an iron wire stretched along the rows fastened to posts every 25 to 30 feet. Either of the systems I found expensive, and slow work. It did well enough when I had but an acre or two, and did not know any better. But when I had many acres I found it was not the thing to do, especially so when I learned that stakes and wire were of no use. I might say entirely unnecessary. I cannot help but sympathize with those who are so far behind the times as to follow that system now. By adopting the pinching back process at the proper time, I save the expense of stakes, or posts and wire, and the time necessary to tie the canes to them, and raise as many bushels of as nice berries per acre, as I did when I followed the old system.

GATHERING BERRIES.

I have often been asked how I manage the many hands necessary to pick my berries to have the job well done, and to have them continue to the end. First, I live near a large city—Dayton, Ohio—(too near to save a large part of my apples and pears) and can get all the pickers I need, and my system is as follows: I use a stand with a handle, holding four quart baskets to pick into. Each picker is given a stand and a basket holder, which holds one quart basket. This holder is tied around the waist, enabling the women, girls and boys to use both hands in picking. Thus equipped, they are put two to a row, one on each side. I have a trusty man to be with them continually; his business is, first to see that they pick none but ripe fruit; second, that they pick all that are ripe; third, that they do not damage the berries or canes;

fourth, that they do not skip rows or parts of them ; fifth, that there is no wrestling in the patch. When the stand has four full quarts, they are brought out to where the packing is done, in the shade of one or more trees ; then give them a check for the full stand, and an empty stand filled with baskets to fill again, and so on till the day is over. I have large printed checks, which I give in exchange for smaller checks if desired.

I pay no one money on account, or in full, until the last picking is over, except in case of sickness or other good cause. By adopting this method my hands continue their work until the last picking is over. When pay day comes all are informed of it, all come, and when we are through with the last picking, all hands collect in the shade and are paid off in full, after which I give them a treat of cider, lemonade and cakes. all have a good time, and go away happier than many worth their millions.

DANDELION CULTURE.

It is but a few years since the cultivation of this vegetable was undertaken but it is making friends so rapidly that although the amount grown annually is already very large, the supply is not equal to the demand. It is used principally as a salad, and as such it occupies a place of its own, being different in taste from anything else.

The main point in its successful cultivation is to have it in market early in the season. To meet this early demand, it is grown on benches in the greenhouse, using all available means to bring it to a marketable state as early in January as possible. From this time till the first of May, when outdoor grown plants and other greens become marketable, there is a steady demand for forced Dandelion.

The seed of the Broad-leaved or Improved Dandelion, which is the variety principally grown, is planted in rich soil in rows one foot apart as early in the spring as the ground will permit. The plants, as soon as large enough, are hoed and tended—not thinned—and kept free of weeds all the season. About the first of September the tops are hoed off lightly, after which the roots throw up a few green leaves sufficient to mark the rows. Just before the ground freezes the roots are plowed out, taken up and brought to a pit or "winter house," where they are stored by setting them thickly in the ground as they grow in the field. The temperature here rarely above 60°, and sometimes the ground freezes around the roots ; there is sufficient light to green the tops a little.

From here they are transferred to the benches of the greenhouse, in quantities as required. I set out some every week, so as to keep the supply constant and uniform. After planting in the benches they grow rapidly, and are ready to harvest in four weeks from the setting. They are placed in rows five inches apart, and about as thick as they will stand in the row. The soil is mixed with plenty of fine horse manure, and a liberal dressing of wood ashes in addition.

When ready for use, the plants are in full bud, with leaves six or seven inches long. They are prepared for market by pulling up the roots, cutting them off, and picking off all dead leaves ; tying them in bunches weighing eight ounces ; and finally washing them. By this plan they are handled without loss or shrinkage.

The usual price is one dollar per dozen bunches ; and as I have never been able to raise enough, I am contemplating the building of a separate house for raising Dandelions on a larger scale. A space 3 × 6 feet will yield

one dollar and a half every month for four months, varying somewhat according to the size of the roots, for the larger these are the heavier will be the tops. The same roots cannot be used a second time; a new stock has therefore to be raised from seed every year. —W. H. Bull, *in Am. Garden.*

INSECTS WHICH INFEST THE ROSE.

The insects infesting the rose are quite numerous; the habits, &c., of some are still comparatively little known, and thus far it has been very difficult to arrest their ravages or sensibly diminish their numbers by artifical means. European entomologists number and describe at least forty species, many of which have not yet found their way to us, but we have enough to keep us at work in order that we may succeed in rose culture. Harris, on "Insects Injurious to Vegetation," is the only American authority on these insects. I refer the reader to that work for descriptions of several species which have been studied up. There is one I wish to call attention to, which I have failed to see described, and that is a small white fly which skeletonizes the foliage of out of door roses beginning with the leafing out of the rose. It is quite a small insect, looking like a white dust rising from the bush when shaken. By midsummer the leaves are fairly skeletonized and are brown looking. I have succeeded in keeping them off the bushes by syringing with a decoction of white hellebore in water, about a tablespoonful in a pail of water. I wet it at first with quite warm water, then dilute and apply with a syringe, when the leaf buds begin to swell, and repeat after about two or three weeks.

The rose-chafer I find a most persistent enemy of the rose, as well as of the grapevine and several other plants. I find no better way than hand picking to diminish their numbers. I notice that the Massachusetts Horticultural Society endorses the use of Paris green to destroy them on grapevines. I have not tested that as a remedy, but think it might be practicable where one wishes to run the risk. Harris' description of this insect in its various stages is quite interesting, and will well repay a perusal by any one interested in natural history. Rose slugs also defoliate the rose bush, but hellebore will destroy them, if judiciously applied. The scale can be removed by hand, or by washing with strong soap suds.— *W. H. White, in Country Gentleman.*

GLOIRE DE DIJON ROSE.

Of all the roses in cultivation, this, in my opinion, is the most useful. It is the last rose of summer and the first of spring. Indeed, with two or three plants in a cool greenhouse, and the same number on any wall out of doors, a constant supply of blooms may be had from February until November. In constitution it is most robust, as there is no situation in which it will not succeed, and I cannot remember a Gloire de Dijon dying of either disease or old age: one of our plants here I know will soon be out of its teens, and still it grows as robustly and blooms as freely and profusely as the youngest of them. During the last three weeks we have cut at least two hundred blooms from this plant which occupies a restricted place in a cool conservatory. Another one which was planted in a miniature form at the end of an unheated peach house three years ago, has this spring produced five hundred buds and blooms; and this is only one crop, as successional ones will follow until the end of the season. If this rose has a fault at all, it is in being over-flori-

ferous. In many instances it is allowed to injure itself through bearing too many flowers; if left to itself there will be a bloom from every eye, and there is hardly any way of preventing this, except cutting off the bloom. The shoots should be cut well into the main stems, and this will induce fresh shoots to push forth, and it is these which, before long, bloom again. At the same time, next year's crops must be seen to, and we find that the best way to provide for these is not to depend wholly on spur pruning, but to lay in a number of young shoots, which always spring from the base of healthy plants, and in the winter time some of the oldest of the branches may be cut away to make room for these. Sometimes these young shoots may be 10 feet or 12 feet in length, but this is none too long, as in spring they will break regularly, and produce a host of massive gorgeous blooms. Out of doors the only profitable way of growing this rose is against a wall where it will have plenty of head room. In dwarf or standard form in a bed it is lost. As a natural rambling bush it would be better, but against the walls of mansions, villas, cottages, churches, it is at home. A well-drained bed, with plenty of rich soil and a never-failing supply of moisture, are its only wants throughout the season; and should green fly appear at any time, liberal syringing will at all times dispel it.—J. Muir, *in The Garden.*

Note by the Editor.—Our readers must not forget that the climate of England is much milder than that of Canada. This beautiful rose will not endure our winters without protection, or it may be carefully taken up and heeled in where it will not be exposed to much frost, and planted out again in the spring.

FRUIT GROWERS' REPORT FOR 1883.

The *Rural New Yorker* in noticing this report of our association speaks in very commendatory terms of the course pursued by the Directors in having a full report of the discussions taken down by a short-hand writer. The *Rural New Yorker* says :—

It is a well-printed book of 415 pages, containing the proceedings of the annual, winter, and the summer meetings of the Fruit Growers' Society, giving, in full, not only the papers read at those meetings, but what, to us, is of a great deal more practical value, a full *verbatim* report of the discussions. Many a man attending those meetings, who could not under any circumstances be induced to write an essay, has some little bit of practical experience, which can be caught by a reporter, that is worth more to persons who wish to learn than some long-winded essays, and we think our Canadian friends very wise in having these discussions so carefully reported. No more earnest or wide-awake body of fruit-growers can be found than those in Ontario, and no country does more for its agricultural class than that Province, as it prints these volumes, and gives the society a large sum with which to pay its expenses. This volume also contains a full report of the visit of Mr. Chas. Gibb to Russia, and of his researches among the Russian apples, together with illustrations and descriptions of the most promising for introduction into the colder portions of Canada. Eighty-three pages are devoted to the entomological report, containing illustrations and descriptions of insects injurious to the various economic crops of the country, and the best known methods of controlling them. This complete work is among the things furnished to every member of the association, whether he be a resident of Canada or not.

GROWING NUT-BEARING TREES.

I have found the safest plan for procuring nut-bearing trees is to grow them myself in my own garden. They are as easy to grow as any fruit tree, and will require but little care. They will sometimes succeed if transplanted from the forest, but there is no certainty about it, and I would not recommend the plan. If the trees are purchased from a nurseryman, they should never be more than two years old, and if boxed and shipped long distances, they should be but one year old from the nuts. In saving the nuts to plant, they should never be allowed to dry in the least. The fresher they are from the tree the more certain they are to grow. To keep them fresh, place them in damp sand or moss as soon as gathered; this applies especially to hickorynuts and chestnuts. Black walnuts and butternuts will remain fresh for some weeks on account of their thick outer shuck. But none of them will grow if allowed to become dry. If the ground can be got ready for planting in autumn, it is well to put them in the rows in the vegetable garden where they are to grow for the first two years. All of the four kinds mentioned should be planted in rows three and a half or four feet apart, and five or six or eight inches apart in the rows, and all about three inches in depth. If the ground can not be got ready in autumn, place the nuts in a shallow box of sand, and bury them in the garden.

The bottom of the box must be loose enough so the water can run out. I lost a barrel of walnuts once that I had saved for seed, from the barrel holding water, and the nuts becoming water-soaked.

Many recommend planting the nuts where they are to grow permanently. But I think we are too apt to neglect them, and I would not recommend such a course except for a plantation that is to be left permanently for timber. Then they may be planted the same as corn and cultivated in the same manner until they shade the ground, and are able to hold their own in spite of the grass that may come in.

Whether planted in autumn or in spring in the garden they should be cultivated as soon as the young trees make their appearance. They should be kept perfectly clean the first summer and also the second summer. Some of the nuts may not come up until the second spring. When they are two years old they are ready to transplant. It is best to wait until early in spring, however, to do this work. The ground should be thoroughly ploughed and leveled. A crop of potatoes upon sod ground is a good preparation. Select the largest, straightest trees in the rows for your own use. If any of the trees have grown puny and crooked from the first, throw them away. They will never overtake their more thrifty neighbors.

The trees will begin bearing in from six to eight years from the time they are transplanted, and will increase in height at the rate of one and a half to two feet each year, for the first twenty years at least. The walnut and chestnut will grow the most rapidly, the butternut next and the hickory slowest of all. They will need no pruning except to form the heads from four to six feet from the ground, and to cut out any limbs that may become crossed or broken.

I know of no more enjoyable thing about a farmer's house than a small orchard of nut-bearing trees. An acre or two devoted to this purpose, will do as much to keep the boys and girls at home while young, and to make the memory of the old home blessed in after life, as anything that I could name.

There is no reason why every farmer or farmer's boy should not have a few

nut-bearing trees of his own growing. And I would say to every one who reads this report, make the attempt. It will cost but little ; the pleasure of seeing the straight row of thrifty young trees the length of your garden will pay you well for all the trouble of growing them ; and if you should have more than you should need for your own use, call your neighbour in as he goes by, and make him a present of a dozen or more to set upon his own place. It will be a neighborly act that you will never regret.

Do not say "it takes too long to get the trees in bearing." I have young trees growing that are the grandchildren of those that came from the nuts that I planted only twenty years ago, I was sixteen years old then, and am not a very old man yet. I feel as keen enjoyment in raking over the golden leaves, and searching for the rich brown nuts as any of my younger friends, and I hope to experience the same enjoyment, and appreciate it too, for many years to come.—Prof. Jas. Satterlee, *in Primer of Horticulture.*

FORESTRY.

PROTECTION THAT IS NEEDED.

While the cry of the people of Great Britain and Ireland is constantly heard against the preservation of so much of the land at the cost of the wealthy in the form of wilderness and even the increase of moor and forest lands, a precisely opposite demand is arising on this continent among people who see the remnants of the wilderness being too rapidly broken up into small holdings. Strong efforts are now being made to preserve to the people of the State of New York some portion at least of the Adirondack forests. This natural wilderness contains some sixteen hundred thousand acres, which, though almost valueless as agricultural land, is invaluable as a timber reserve and a pleasure resort as long as it remains covered with forest ; which, judging from the manner in which the work of spoliation has been carried on, will not be very long. The system in vogue among the lumbermen, who have taken in hand the duty of improving this forest from the face of the earth, is most thorough. Every piece of wood that is worth the cost of transportation is first taken and the remainder is converted into charcoal, leaving the land completely stripped. Important as it is to preserve the forests for their own sake, in this case their important effects upon the climate renders it an absolute necessity. The Hudson and numberless other streams rise in the Adirondacks, and if these hills be stripped of their forests the water supply may possibly be reduced, but the certain result would be that periods of shallow water would alternate with dangerous floods. At a meeting of the New York Chamber of Commerce an expert declared that while on the shores of Lake Champlain the rainfall was but twenty-three inches, twenty miles back in the forest-clad mountains it was sixty inches, and this was mainly due, in his opinion, to the timber, although the height of the hills should also be taken into account. As only five hundred and seventy-three thousand acres of the wilderness belongs to the State it is proposed that the private interests in the remainder be at once purchased by the State, in order to protect its most valuable asset, the Erie Canal, which is endangered, and the entire tract be reserved as a public forest. If this be done, as there is strong hopes it will, the State of New York will be the first to establish in America a public forest, and every other community in America should take steps to follow so good an example. The provinces of Canada being in a far more favourable position than any of these States should most certainly be

the leaders. The water sheds of our rivers are still in the hands of the Provincial Governments and they can at their pleasure reserve as much of them as they will for the storage of moisture, timber, and health and strength. Those reserves if managed according to the best foreign methods should furnish no inconsiderable revenue, and we certainly have enough and to spare of broad rich acres waiting anxiously for the plough to permit these barren lands to retain their forest glories.—*Toronto News.*

EXPERIMENTS WITH TOMATOES.

N. Y. Agricultural Experiment Station.

Our tests with tomatoes include 64 named samples. One hundred seeds of each kind were planted in boxes in the greenhouse April 9-11, and the time required for vegetation was six to nine days. The number of seeds which vegetated varied from 14 to 100 per cent. as between the different varieties, the average being 74 per cent. Four plants of each kind were transferred to the garden on May 24. The first bloom was noted 61 days from planting upon the Little Gem variety, and the last variety to bloom was the Improved Large Yellow, in 104 days from planting. The first tomato to ripen was of the Green-Gage variety, and was noted July 31, or 112 days from planting. The first large-fruited variety that ripened ten fruits was the Alpha, 135 days from planting, or upon August 22. The New Currant, a very small variety had ripened 10 fruits on August 18, and the Turk's Cap, another small variety, August 22. The President Garfield, a so-called new variety, failed to ripen any fruit. We find that the order of ripening of the varieties does not agree with that noted last season. Thus, last year the Acme was two days later than the Mayflower; the past season it was 7 days earlier. Last year the Acme was 6 days earlier than the Paragon; the past season it was 30 days earlier. Last year the Acme and Trophy ripened the same day; the past season the Acme was 7 days earlier than one sample of the Trophy, and 11 days earlier than another.

It is interesting to note that tomatoes which came up in the garden as weeds from the last fall's seeding, seemed to ripen their fruit at about the same time with the earlier class as grown by us from the planting of April 9th-11th.

We note that as a rule smooth tomatoes have few cells, and conversely, that many-celled tomatoes are rough. The number of cells found varies in the fruits on the same plant, as does also the smoothness of the fruit. These facts suggest that in order to secure smooth fruit we should select for seed those which are few-celled. As evidence in favor of this suggestion, we note that fruits of the Acme tomato are invariably smooth, and the number of cells in this variety rarely exceeds four. The Cherry, the Currant and Apple tomatoes are also invariably smooth, and rarely have more than two cells.

The roots of a tomato plant examined occupied the upper eight inches of the soil, and were traced to a distance of 24 inches on one side, and 80 inches on the other. From this it appears that the plant drew its nourishment from a circle about 4½ feet in diameter, or from an area of about 16 square feet. A single root was traced downward to a depth of 2½ feet. The tap root was clothed with a multitude of fibrous roots to the depth of 8 inches, where it separated into massy branches. This rooting habit is what we would *a priori* expect from a plant originating in the tropics. It seems at present to be a safe generalization that all plants grown in our gardens, of tropical origin, are superficial rooters, and that consequently they not only require a hot season for their best development, but that the

manuring shall be placed within the area of soil occupied by the roots. *A priori* deep-manuring, or shallow-manuring or surface-manuring, as a practice, should depend upon the rooting character of the plants which are to be grown upon the soil which receives the manure.

E. Lewis Sturtevant, *Director.*

MARKETING FRUITS.

The marketing of a product is as important a matter as production. The profit depends fully as much upon proper sale as upon proper production. The profit is the margin between cost of production and price realized ; hence a poor price destroys profit as effectually as excessive cost of production. The first point to observe is perfect honesty. Give honest measure. A short measure is an abomination unto the buyer of fruits. Let a quart package be two full pints : and let your peck be eight such quarts. Don't cheat, and greater shall be your reward. To be successful you must establish a good reputation, and to do this you must have honest measures.

Pack honestly. Let me tell you that next to honest measure, honest packing is the prime requisite of successful marketing. If you would make that reputation without which you can not make money, you will have the contents of every barrel, basket or box as good at the bottom or middle as at the top. Always sort your apples, peaches, plums, &c.; never put large and small ones in the same basket, and be very careful that you don't put the large ones on the top. The small ones will help to fill the basket very little and will spoil the looks and the sale of the whole. Keep them separate and they will measure more, the small ones will sell for as much as the mixed lot, and the large ones for extra fine fruit. Have the contents of each package of the same grade throughout. "There's millions in it."—*From Rural New Yorker.*

FERTILIZERS.

Mr. Ware ventured to mention salt as a manure ; he had seen excellent results from its use. If not plant food, it is certainly taken up by plants, as is shown by their salt taste. For mangolds, carrots and cabbages, it is certainly valuable in connection with other manures, and farther inland it must be more valuable. He had seen large crops of grass where the salt had been washed from curing fish. He would apply from ten to twenty bushels per acre of refuse salt, which can be obtained very cheaply.

Night soil is valuable, but it will not do to depend upon it alone ; it must be used in connection with some other manures.

Farmers should depend mainly on their barns for manures, and use commercial fertilizers to eke them out and assist them. A report of the Connecticut Agricultural Experiment Station says that the price of commercial fertilizers is from thirty to thirty-five per cent. above the value of the materials, and farmers pay that for mixing and manipulating them. Stable manures do double or triple duty ; they not only supply plant food, but have a chemical or mechanical action that brings out the fertilizing qualities in the soil, and this should be taken into account. Commercial fertilizers leave the soil in a sodden condition.

In regard to the application of manure, Mr. Ware said that the time had gone by when farmers need fear loss by evaporation at whatever time manures are spread, and if the land is in condition they may be applied at any time. Green manure, harrowed in in the fall, will be plant food in the spring, very much as

if composted. Green manure, if it does not injure the crop, will produce stalks rather than fruit. It should be composted to produce fruit, but if foliage is wanted may be applied green.

He believed in applying manure as fast as made; but would not object to spreading on snow, but would object to free spreading on frozen ground on a steep hill. He had seen water colored by manure washed into a hollow, when the crop did not show any more. He would apply manure on the surface, harrowing it in, but never ploughing in unless he ploughed a second time.

If manure is applied in autumn, and the ground is ploughed in spring, it brings up the soluble portion that has washed down.—*Discussions of the Mass. Hort. Society.*

COST OF RAISING MANGOLDS.

The great objection most farmers have to growing mangolds, is their supposed cost of production. Some writers on the subject say that the labor bill alone is more than the whole value of the crop. But my experience proves (to my own satisfaction at least) that the growing of mangolds is not only profitable, but that it is the most profitable crop for a dairy farmer to grow in this section of the country. This year I put in one acre on land that was in very poor condition, having been leased to a person for the last three years whose interest it was to take all he could out of the land before his lease expired.

I ploughed the land as deep as a good strong team could do it; put on three bags of artificial manure broadcast; harrowed it in thoroughly; ridged it up 26 inches apart; rolled the ridges with a two-horse roller; drilled in the seed on the top of the ridges, and then rolled it again. With this treatment I think every seed germinated. They were hoed twice and cultivated three times. After the last cultivation the earth was thrown up to them with a double mouldboard plough. The yield was 26 tons of large solid mangolds, at a cost of $1 33 per ton, as follows:—

Rent of land	$4 00
Seed	4 00
Manure	15 00
Horse labor	5 00
Hand labor	8 00
Total	$36 00

Allowing 60 pounds to the bushel, we have 906 bushels, costing less than 4 cents per bushel. When we take into consideration the fact that half a bushel fed along with the usual rations, will increase the milk yield two quarts per day, besides keeping the animal in good health, we have, in my estimation, one of the best crops that can be raised for feeding dairy cattle in winter.—*Cor. Country Gentleman.*

THE WEALTHY APPLE.

The Wealthy is a very thrifty but not very rapid grower, in this particular being much like the Duchess of Oldenburgh, the trees of the two varieties looking very much alike both in nursery and orchard. The chief reason for its rather slow growth is easily found in its early and abundant fruitfulness. Trees six and seven years set have often produced each a full barrel of marketable fruit. It is a regular bearer, and has fruit when any apple tree in the neighborhood has any. The Wealthy and the Duchess are about equally reliable in this particular.

As regards quality the Wealthy leaves little to be desired. It is a better dessert fruit than the Baldwin because it has softer flesh and a more delicate flavor, and for these reasons it is in the same proportion inferior for cooking purposes. In this it resembles the Fameuse. As to marketable qualities I never knew an apple to take the eye

and the palate of buyers any better. The fruit is always fair, even in size, and handsome in form and color. As regards keeping, it comes into eating about the first of January, or somewhat sooner sometimes, and I never had any difficulty in keeping them sound until the end of March, and often till the end of April. Further south they do not keep so well.—Dr Hoskins, *in The Home Farm.*

THE MRS. GARFIELD STRAWBERRY.

One of the most vigorous growing plants in our Strawberry trial-beds is this new variety. The plants were received too late last spring to perfect any berries; yet, to judge from the results under so adverse conditions, we were very favorable impressed with its desirable qualities.

It is a seedling of the Crescent, raised by Mr. Matthew Crawford, of Ohio, and is now introduced by Hale Brothers, of South Glastonbury, Conn., who describe it as follows:

"Growth of plant healthy and vigorous, resembling its parent, the Cresent, with broader foliage, however, and not making more than one-fourth as many runners; leaves clear and bright, standing drought and frost without injury; flowers perfect, with abundant, well developed stamens; fruit stalks of medium length, stout, and usually branching. Very prolific, equal to the Crescent in quantity of fruit per acre; and while not setting quite as many berries as that variety, they average much larger and hold their size better to the end of the season. Form conical, with slight neck; color, glossy bright scarlet. Its flavour is rich, sweet, and delicious; and while not equal to the Wilson in shipping and keeping qualities, it is much firmer than any other of the very productive sorts."—*American Garden.*

CONCERNING LEAVES.

Leaves have a peculiar and special share in the work of vegetation; every leaf is constructed of an intricate network of "veins," running through a soft pulpy substance. This framework is composed of woody fibres, its purpose being to support and distend the softer parts of the leaf. Accompanying these fibres through all their branchings, and usually running a little beyond their extremities into the green tissue, are minute tubes or vessels. Follow these back to the midrib of the leaf, and we find that they continue still farther, connecting with the circulatory system of the stem, which in turn extends down to the roots. This line of vessels, therefore, provides a direct course for the passage of the fluids absorbed by the roots, to the most remote portions of the leaves. One of the most important functions of the leaves is the collecting of carbonic acid gas from the air, and by the action of their green coloring matter, to combine it with the elements of the sap to form the constituents of growth. These compounds containing carbon form about fifty per cent. of the bulk of the plant, so we see that the leaves are really the most active portions of the vegetable organism, collecting fully one-half the food, and combining it with that furnished by the roots into the complex constituents of the perfectly developed plant. The chemical processess, which occur in the leaf, are too complicated for discussion here, but its anatomy, the utility of all its parts and the harmony with which they perform their work, are easily understood, and furnish us one of the best examples of the detailed perfection of nature's work. —W. E. Stone, in *American Agriculturist.*

BOOKS, &c., RECEIVED.

SCHOOL SUPPLEMENT for July-August, published at No. 9 Toronto Street, Toronto, is embellished with two fine portraits of Queen Victoria, also with a portrait of J. Greenleaf Whittier, and of Will Carlton.

THE PRIZE LIST of the Industrial Fair and Semi-Centennial Exposition to be held in Toronto, September 10th to 20th, 1884, is received. Entries close Saturday, August 23rd. Forms and information can be obtained of the Manager and Secretary, H. J. Hill, Esq., Toronto.

SETTLER'S POCKET GUIDE to Homesteads in the Canadian North-west, by John T. Moore, Toronto, gives a description of the lands at Crescent Lake, Assiniboia; North Elbow, in Saskatchewan; and Red Deer, in Alberta, with special reference to those offered by the Saskatchewan Land and Homestead Company.

ANNUAL REPORT of Nebraska State Horticultural Society for 1881, but, however, just issued in 1884, is an interesting pamphlet of 166 pages, for which we are indebted to Mr. Daniel H. Wheeler, as also for a copy of the PRIZE LIST of the Nebraska State Fair to be held in Omaha, September 5th to 12th, 1884.

PRIZE LIST of the Thirty-ninth Provincial Exhibition to be held at the City of Ottawa, under the auspices of the Agriculture and Arts Association of Ontario, September 22nd to 27th, 1884. Entries of horticultural products, ladies' work, and fine arts must be made on or before Saturday, August 30th. All information relating thereto will be furnished by Henry Wade, Esq., Sec., Toronto.

A BASKET OF CHERRIES was received, for which the kind sender will please to accept our thanks. It contained fine specimens of American Heart, Black Tartarian, Tradescant's Black Heart, Reine Hortense, May Duke, Governor Wood, Black Eagle, Butner's Yellow, and of a seedling, which latter was of good quality, excellent flavour, and seemed to bear carriage remarkably well. Judging from these samples we conclude that the cherry crop in the vicinity of Hamilton is very good.

THE MISSIONARY PROBLEM, a compendious history of Protestant missions in the more important missionary fields, by James Croil, Montreal, published by Wm. Briggs, 78 King Street East, Toronto. From it we learn that the average contribution per communicant throughout christendom for this work is less than fifty cents a year; that a thousand millions of people are yet heathen; that there are in the United States and Great Britain one hundred and fourteen thousand ministers preaching to about seventy millions, but only two thousand two hundred and ninety-three preaching to this thousand millions of heathen. There is need of ten thousand more missionaries and fifty millions of dollars a year to prosecute this work, which might well be spared from the fourteen hundred millions of dollars annually spent in the United States and Great Britain upon liquors, to the manifest benefit of all concerned.

THE HURLBURT APPLE.—I consider it the most profitable apple we raise, as it is a vigorous grower and an early annual, and heavy bearer, the apples being mostly fair and saleable and free from the ravages of the codlin moth, and they cling well to the tree. Although not so good a keeper as the Baldwin it is far superior in quality, and always sells well in our home markets It is a November and December apple. One of our best orchardists told the writer that if he were going to set out another orchard he would set one-half Hurlburts. —H. J. A. SIMMONS, in *Country Gentleman*.

THE OLD APPLE TREE.

Here's the old apple tree, where in boyhood I sported,
When my heart was as light as the blossoms it bore;
Where my old maiden aunt by the parson was courted,
In her prim cap and gown, like a damsel of yore.

On that rude oaken bench 'neath the bending boughs seated,
While the wild bee was humming its songs on the tree;
We youngsters oftimes in the summer were treated
To share with the elders their gossip and tea.

Look; here are the names of how many now sleeping
Of parents and kindred, long gone to the tomb;
Yet the old apple tree, like a true friend is heaping
The shrine of their relics with beauty and bloom.

In this season of light that man's spirit rejoices,
While the old apple tree looks as gay as a bride,
I could dream that I heard every one of their voices
That so often have sat on this bench at my side.

Every rudely-carved name has some story to tell me,
That true-lover's knot I remember it well;
It was carved on that day when my first grief befel me,
The day of my parting from young Isabel.

Yes, here we two parted, and parted for ever.
I have wander'd since then like a pilgrim afar;
And have loved too again with some fervour, but never
Shone love on my heart like its first morning star.

And I'm come back to die in the home of my fathers,
And I sit 'neath the blossoms that mock my decay;
And thus my fond memory the sad harvest gathers,
Of friendships and love that have long passed away.

Yes, the old apple tree, where in boyhood I sported,
And the rude oaken benches, they are still in their place;
But the dear household faces whose welcome I courted
They have vanished and left me, the last of my race.

Cure for Cabbage Pests.—A gentleman in West Virgina believes that he has discovered a simple and effectual remedy for the abominable pest, the cabbage worm. It is so simple, and easily obtained, that it should be tried by all who are in any way troubled with the creature. The remedy consists in procuring smart-weed or pepper-weed, as it is sometimes called; well known to all farmers, growing in and about farm-yards, or sometimes by the roadside. Take the weed green, and dry it thoroughly, so that it can be reduced to powder, which sprinkle over the young plants, or when the worms begin to appear; it will also prevent injury from the little black fleas that sometimes infest the plants. Possibly if the smart-weed were boiled in water, and that sprinkled on the plants it would serve the same purpose.—*N. E. Farmer.*

Profit in Raspberries.—Two thousand Cuthbert raspberry plants were set in the fall of 1881, in rows, five feet apart in the rows. The soil was a rich loam. In the spring the plants started early and grew right along, so that by fall the plantation had the appearance of a two years' growth The young plants were pinched back when they had attained a growth of two feet, and in the rows between the plants a good crop of cabbage was grown. The plantation was well cultivated throughout the season of 1882 and not a weed allowed to grow. Now for the results: The past season there was picked and sold from the plantation of a little less than an acre, 100 bushels of fruit that sold for 13 cents per quart, net; or in round numbers, $384 worth of berries. In addition to this, 48,000 plants have been dug from the patch this fall and sold to one nurseryman for $3 per thousand, amounting to $144. Enough plants were kept to set two acres, and the prospects for an immense fruit yield next season is good.—*New England Homestead.*

Wood Ashes for Orchards.—For orchards, says Dr. R. C. Kedzie, in the *New-York Tribune*, I regard ashes as worth more than six times the value of barn-yard manure, ton for ton. When barn-yard manure is composted with wood ashes, the coarse vegetable material and litter are rapidly broken down, and the manure is speedily fitted for use; there is some loss of nitrogen in the form of ammonia, but there will be no loss of mineral matter if kept from leaching by water. Wood ashes represent all the mineral elements of vegetable growth, and contain everything the farmer must give his crops except combined nitrogen. Wood ashes will vary in composition and value with the kind of wood and the part of the tree. I will take the ash of the body-wood of the beach-tree as representing the average of wood-ashes. A ton of such ashes contains 320 pounds of potash, worth $16, and 105 pounds of phosphoric acid (insoluble), worth $5.25. Omitting all the other ash constituents, which have some value of themselves, the potash and phosphoric acid of a ton of such ashes are worth $21.25, or nearly six times the value of a ton of fresh horse-dung.

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPP, CLARK & CO., COLBORNE STREET, TORONTO.

WORDEN GRAPE.

THE

Canadian Horticulturist.

VOL. VII.] SEPTEMBER, 1884. [No. 9.

THE WORDEN GRAPE.

This is one of the many seedlings that have been raised from the Concord. It partakes largely of the peculiar characteristics of its parent in foliage, hardiness, and general appearance of the fruit. It was grown by Mr. S. Worden of Minetta, State of New York, from seed of the Concord. The bunch is large and shouldered, and the berries are large, black, and the skin is thin. The flesh is sweet, resembling the Concord in flavor, but considered by most persons better. It ripens about a week earlier than the Concord. Mr. Bush, of Missouri, says that it does not succeed in the South but is desirable at the North, where it is growing in popular favor.

Mr. Dempsey, of Trenton, Ontario, stated at the winter meeting of the Fruit Growers' Association, held in January, 1882, that the Worden is in the market two weeks before the Concord; that he did not know as it would yield as many tons of fruit to the acre as the Concord, from the fact that it is not as rapid a grower, and yet he considered it one of the most profitable black grapes that we have. Col. John McGill of Oshawa, finds the Worden to ripen some ten days earlier than the Concord, and on that account valuable for a cold climate.

Mr. Wellington, of Toronto, stated at the winter meeting held in that city in January, 1883, that he had found the Worden to be at least a week earlier than the Concord; he considered it to be of better quality, a little smaller, but fully as productive.

In order more fully to test the value of this grape in Ontario the Fruit Growers' Association made a present of a vine to those of its members who wished to give it a trial, so that it has now been very widely disseminated throughout the country, and we may in a very few years learn how it is succeeding in nearly every part of the Province. We shall be disappointed if it does not prove to be a very valuable grape in our climate.

MEETING OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

The annual meeting of this Association will be held in the Town Hall, Barrie, on Wednesday and Thursday, October 1st and 2nd, 1884. The meetings will commence at ten o'clock a.m.

of Wednesday, the first of October, and will be conducted as far as practicable in accordance with the following

PROGRAMME.

Wednesday, October 1st.

A. M. MORNING SESSION.

10.00—Reading of minutes of last annual meeting.

10.15—Discussion on the most desirable new varieties of strawberries, and their particular merits.

11.15—What varieties of apples, pears, and of small fruits succeed on clay soils.

12.15—What insect is destroying the foliage of the maple trees on the grounds of Mr. C. H. Ross? Are its depredations confined to that locality? What application can be used or means adopted to destroy the insect or prevent its ravages.

P. M. AFTERNOON SESSION.

2.00—Question Drawer will be opened, and any questions found therein will be answered by some person indicated by the President.

2.30—The benefits of mulching in summer and winter, and the most suitable material.

3.15—Paper by Mr. A. Hood; subject to be announced at the meeting.

3.30—Discussion on Mr. Hood's paper.

4.00—Discussion on the varieties of apples best adapted to the climate and soil of the County of Simcoe.

4.45—What varieties of pears can be successfully grown in the County of Simcoe? On what soils should they be planted? What cultivation should they receive? What fertilizers should be employed?

5.00—Discussion on the best plants for hedges in the County of Simcoe and their management.

EVENING SESSION.

7.30—Question Drawer opened.

8.00—Address of welcome by the Mayor of Barrie, and response by the President of the Association.

8.30—Discussion on the desirability of interesting our children in floriculture by the cultivation of flowering plants and trees in the school grounds? Can the study of botany be introduced with advantage into our public schools?

9.30—How can purchasers of trees and plants be protected against the impositions of dishonest agents?

Thursday, October 2nd.

A. M. MORNING SESSION.

9.30—Question Drawer opened.

10.00—Annual address by the President.

10.30—Directors' and Treasurer's reports.

10.45—Election of officers for ensuing year.

11.15—Discussion on roadside tree planting; what benefits are to be expected therefrom; which are the best kinds of trees to plant; when is the best time to plant them?

12.00—Would a canning factory be likely to pay in this part of the country?

P. M. AFTERNOON SESSION.

2.00—Question Drawer opened.

2.30—Discussion on the marketing of small fruits; what are the best packages; best methods of packing; means of transportation; and best markets.

3.15—Discussion on the cultivation of celery; methods of growing; of storing for winter use; most desirable varieties; is it a profitable vegetable to grow for market?

4.00—Grapes, what varieties can be successfully grown and ripened in the County of Simcoe; on what soil should they be planted; what aspect is to be preferred; what culti-

vation should they receive ; should they be protected in winter ?

4.45—Asparagus—can it be profitably grown for market in the County of Simcoe ; how should the ground be prepared ; at what distance apart should the plants be set ; how cultivated ?

5.15—Flowering shrubs, what varieties succeed best in the County of Simcoe ?

EVENING SESSION.

7.30—Question Drawer opened.

8.00—Peas for table use, which are the best varieties ; can they be profitably grown for market ?

8.30—Roses, can they be grown in the County of Simcoe ; what soils are best for roses ; what cultivation should they receive ; and how should they be pruned ?

9.00—Currants, which are the best varieties in cultivation ; the best modes of cultivation ; can they be profitably grown for market ?

9.30—Closing address by the President.

The Queen's Hotel and the Mansion House will entertain members during the meeting at one dollar per day.

The Directors' meeting will be held at the Queen's Hotel on Tuesday evening, September 30th, at eight o'clock.

The Grand Trunk Railway will grant tickets to Toronto and return for a fare and a third from any station in Ontario, on presentation of certificate signed by the Secretary.

The Northern and North-Western will grant tickets to Barrie from any station on the line of that Railway on the same conditions.

The Canada Pacific will grant the same reduction.

All tickets will be good to go on the 29th and 30th September, and good to return up to 6th of October inclusive.

Members wishing to attend will apply to the Secretary at St. Catharines for certificates, stating over what road or roads they will have to travel, in time to have them received, so that they can be presented on purchasing their ticket.

It is intended to hold an exhibition of fruit in connection with this annual meeting, to which all are invited to contribute. Persons residing at a distance can send their fruit for exhibition to the care of Mr. Charles Hickling, Barrie.

The room under the hall will be used for the exhibition of fruits. Gentlemen are requested to send samples of fruit for exhibition, and a committee will be appointed to examine them and make a report thereon.

These meetings of the Association are open to the public, and all, both ladies and gentlemen, are cordially invited to attend.

AMERICAN FORESTRY CONGRESS.

ANNUAL MEETING.

The annual meeting of the Association will be held at Saratoga, New York, on Tuesday, September 16th, 1884. All interested in the Forestry movement are cordially invited to participate.

INDIANA STATE FAIR.

TO BE HELD AT INDIANAPOLIS.

The Fair will commence on Monday, September 29th, and continue to October 4th. It will be a strictly agricultural fair and farmers' annual gathering.

It is an acknowledged fact that any intelligent person may learn more by attending a State Fair, as to the improvement in live stock and machinery and progressive agriculture, than by months of travel for that purpose.

RASPBERRY NOTES.

The *Rural New Yorker* gives the results of some observations made at the Rural Experiment Grounds upon the time of ripening, and the quality of the Hansell, Superb and Marlboro' raspberries. There the Hansell was the first to ripen of any variety in the grounds. This was not the case in the grounds of your Editor, ripe berries were gathered from Highland Hardy before Hansell was ripe. The *Rural* adds, that Hansell has not been very prolific, and the growth of the canes is less vigorous than that of either Superb or Marlboro'. This corresponds with the writer's experience this year; indeed the Hansell *seems* to be a poor grower and a poor cropper, judging from the experience of this season. Nor is there any superiority in the quality of the Hansell to atone for its defects in vigor and productiveness. Mr. P. C. Dempsey, of Trenton, Ont., stated last year (see Fruit Growers' Association report for 1883, page 140), that he was disappointed in the Hansell, that he was able to gather in a patch of wild raspberries as good Hansells as from the plants in his garden, being unable to see any difference either in appearance, quality or time of ripening.

THE SUPERB

is stated by the *Rural New Yorker* to have ripened soon after the Hansell, but not quite as early as the Marlboro'. The berries, the *Rural* adds, are often imperfect, the drupes pulling apart easily; the later berries are all imperfect, and the drupes of unequal size; the color dark, and the quality acid without the rich raspberry flavor which some acid berries possess. This is very nearly the experience of your Editor with this variety. He found the berries that first ripened to be very imperfect, crumbling apart on being gathered; those ripening later were more perfectly formed, of better size, and some of them could be gathered whole. But they are very sour and thin flavored at best, and too dark in color to be popular in market.

On looking into the report of the American Pomological Society for 1883 we find that J. T. Lovett, of New Jersey, and C. A. Green, of New York, both say that the berries of the Superb crumble badly.

THE MARLBORO',

says the *Rural New Yorker*, "is valuable for fruitfulness; for the large size and firmness of the berries, and for vigor of plant." The writer has not fruited this variety, and consequently is unable to speak of its qualities. In the American Pomological Society's report for 1883, page 52, C. A. Green is reported as saying that the fruit is large, bright red, firm, of good quality, and ripens very early; and that the plant is a vigorous grower and heavy yielder. Also, J. H. Hale, of Connecticut, is stated as saying that it is a strong, vigorous plant, and that the fruit is of largest size, bright color and very firm, ripening extremely early. He considers the flavor much like that of the Brandywine.

SHAFFER'S COLOSSAL

is reported by the *Rural New Yorker* as beginning to ripen July 5th, the

berries continuing to grow to the largest size, the quality intensely raspberry flavor, having considerable acidity, yet tempered with sugar enough to make it sprightly rather than sour. The writer has fruited this variety for two years and is much pleased with it for cooking purposes, preferring it for that use to any of the red varieties. It is the most vigorous grower of any sort that he has yet seen, yields well, and has never suffered from the winters in his grounds. The berries are by far the largest of any of the cap varieties, and would sell in market at sight were they of some brighter color than the dark maroon which makes them so unattractive in appearance. When our canning establishments shall have learned the excellence of the flavor of these berries when properly put up, there will be a great demand for this fruit. In the report of the American Pomological Society for 1883, at page 52, will be found the opinions of several who have fruited this variety. Dr. S. Hape, of Georgia, says it is "superior for canning, very productive;" J. H. Hale, "fruit of largest size, valuable for canning;" Parker Earle, of Illinois, one of the most extensive berry growers of the United States, says the fruit is of excellent quality for the table for those who prefer an acid raspberry, being taken at his own table in preference to the Turner, which he esteems the richest and sweetest of all raspberries, and that for canning it has very great merit. J. T. Lovett said, "it is the strongest growing and the most prolific of any raspberry that I have yet grown. The fruit is of colossal size, and although rather tart to suit most tastes, yet it is sprightly and to my liking. I have found it the best of all berries for canning." Chas. W. Garfield, Michigan, reports that it is universally popular, that it went through last winter, 1882-83, under very trying circumstances and came out in good condition, and that in his own case it has borne one-third more fruit than any other variety of raspberry grown in his vicinity (Grand Rapids), and everybody wants it for canning purposes. G. B. Brackett, of Iowa, reports it as being very hardy, productive, and surpassing all other varieties in size.

THE SOUHEGAN

is dismissed by the *Rural New Yorker* with the remark that it ripened scarcely earlier than the Doolittle, and was crowded with small berries of poor quality. This is scarcely what your Editor would say of this black raspberry. It is crowded with berries truly, which are not as large as those of the Gregg or Mammoth Cluster, but fully as large as Davidson's Thornless and ripening at same time with it, and of as good a flavor. The Doolittle began to ripen before the crop of the Souhegan was gathered, so that the last picking of Souhegan and the first picking of Doolittle came in together. The Hopkins and Tyler are much like the Souhegan, and ripen at about the same time. Where it is important to get an early ripening black raspberry these varieties will be considered valuable, but which of the three is the best the writer's

experience does not yet enable him to say. Differences in soil may cause difference of opinion on this point.

QUESTION DRAWER.

FUNGOID SPOTS ON APPLES.

Dear Sir,—I have about fifteen acres of apple orchard all told, some old, some in their prime, and some bearing for the first time this year, and the apples, one and all, with hardly an exception (except the Duchess of Oldenburg) are covered with blotches and cracks. My trees are all well tended and pruned, and the soil is in a first-rate condition for crops, but the apples are dreadful. What can I do? I am myself inclined to heavily manure them with bone dust and wood ashes. I did mulch them all heavily this year with barn-yard manure.

I am going to put down some dwarf pears and Duchess apples, would you recommend planting in the fall or spring?

The apple trees are all well loaded with apples, but such apples!! If this is to happen in a good year, what will they do in a bad? Can you suggest any probable cause or any possible remedy?

I am, yours faithfully,
George Bunbury.

Oakville, Ont.

Reply.—The report of the committee on those scabs on the apple is anxiously expected. You will probably do best to plant in spring.

INSECTS.

Dear Editor,—I send you a leaf of a St. Lawrence apple tree, on the reverse side of which you will notice a number of animalculæ which are perfect strangers to me. The ants drew my attention to them. I attempted to kill the ants before I noticed these customers. I hope they will survive the journey. They cannot be the production of the ant, and therefore I conclude that the latter is as useful in the garden as the *aunt* is (sometimes) in the household. I may add that the ants survived an application of coal oil and carbolic acid (one ounce to the pail).

Yours truly,
Thomas P. Foran.

Aylmer, Que., Aug. 13th, 1884.

Answer.—The animaculæ are the black aphis. They are easily kept in check by syringing with tobacco water. Steep some tobacco stems or leaves for a few hours in warm water, and apply the water with a garden syringe. The ants feed on an exudation from the aphis, not on the aphis themselves.

PROPAGATION OF CLEMATIS.

Please let the readers of the *Horticulturist* know how the Clemati, Jackmanni, &c., may be propagated. I fancy by layers, and if so, when should they be put down. If by layers, would "serpentine" layering be the best?

Yours, Robert Stark.

Woodstock, August 13th.

Answer.—They are usually propagated by grafting on seedlings of C. lanuginosa, growing them under glass. They can be more slowly propagated by layering after the wood has become sufficiently ripened, so that the layers will not damp off. The manner of layering, so long as the emission of roots is facilitated, is of no moment.

RIGHT TO THE WATER.

My Dear Sir,—In your August number is a short article on irrigation. I have about twenty acres of fruit trees

in a favorable position for irrigation from a spring creek that crosses my place on higher grounds. The question has been under discussion in my own mind for several years, in fact, has been tried in a very rude manner for a year or two. But there are several questions that have been preventing my expending more in a more permanent arrangement.

1st. Have I a right (legal) to use all the water I require or wish from a stream crossing my place without reference to owners of land on banks of stream lower down, provided I use the water upon my place (50 acres) exclusively?

2nd. If not, what proportion of the water may I use?

3rd. Have I any legal right to use any of the water for irrigation purposes?

I am very much interested in the above, and have failed, so far, to get clear and satisfactory answers. Perhaps you can help me.

GEO. M. AYLSWORTH.

Collingwood, Aug. 8th, 1884.

[Will some of our legal readers reply.—ED.]

WEEDS.

DEAR SIR,—What is the best work on "weeds," giving the names and descriptions of our Canadian weeds, more especially noxious weeds. Kindly answer in next number of *Canadian Horticulturist*. G.

Berlin.

REPLY.—We do not know of any work on Canadian weeds. The nearest to such a book is H. B. Spotten's Canadian Botany, Part II., which is a most valuable and reliable guide to the study of our native plants.

CELERY CULTURE.

How to Grow Fine Celery—A new method by Mrs. H. M. Crider, published by H. M. Crider, York, Pa., price 25 cents, is the title of a pamphlet of fourteen pages received by us, which we have read with care in the hope of being profited by the perusal. This treatise commences with some general remarks on the difficulties that hitherto had been supposed to attend the cultivation of celery and the sudden awakening of the writer to the recollection that celery was a semi-aquatic plant, and then on page seven gives instructions for raising the plants from the seed. The method here given is that usually pursued in the raising of plants from seed, for which no novelty is claimed. On the next page is given instructions for planting out, in which we are told to open trenches two feet deep, leaving one foot of fine soil in the bottom, and set the plants in the trenches in single rows, six inches apart. Now, there is nothing new in this. Corbett, who wrote long ago, gave directions for making trenches twelve to fifteen inches deep, putting rich compost in the bottom, digging it in and planting six or eight inches apart in the bottom of the trenches. We thought that we had got out of these trenches in celery-growing. The writer has grown celery successfully for many years without planting in trenches at all. Indeed this trench-making is a useless expenditure. Our method is to open furrows with the plough about four feet apart, then drive along them with the team hitched to a waggon loaded with fine compost, and half fill the furrows with the compost, then with the plough throw the earth back and cover the compost; follow with the roller to level off the ridges, and plant with the dibble over the compost. The trouble and expense of opening trenches two feet deep and

working up the bottom so as to leave a foot of fine soil, will certainly be many times more than working with the plough and planting on the level surface. Our author then directs us to tie each plant to a stake three feet high, and keep them upright by frequent tyings during the whole period of their growth. Well, this is something new ; at least we do not remember to have read or heard of such a procedure in celery culture. If the object be to make celery-growing as troublesome and expensive as possible, then this is good advice. Fancy a market gardener tying up a couple of acres of celery plants in this way. An acre will contain fifty-five rows, four feet apart, and one hundred and ninety-eight feet long. If set six inches apart in the row, each acre will contain twenty-one thousand seven hundred plants. What would the gardener's crop cost him if he were to follow this advice ? We are further advised that green corn husks are excellent for tying the plants to these stakes, because it is soft, flexible, never cuts the plant, and decays readily when the celery has been earthed up. We cannot say how many ears of green corn must be husked to supply husks for the tying of an acre of celery, but this involves the growing of an acre or so of corn to supply the husks, and as it is not usual for the market gardener to husk the corn before sending it to market, he will probably have to feed this green corn to his pigs in order to supply himself with the requisite husks.

Then our author advises to depend on water to keep the celery fresh and growing. From first to last the measure of water you give will be the measure of your success, is the axiom given. But this is no new idea. The readers of the report of the Fruit Growers' Association for the year 1882, will remember that on page 33 the advantage of having a plentiful supply of water is fully set forth. But great as that advantage may be, it would be a great mistake to conclude that celery can not be grown and well grown without an artificial supply of water. Our market gardeners, who grow celery by the acre, depend upon the clouds for their supply, and seldom fail of raising excellent crops.

The plan usually pursued by them is substantially the following : — The ground having been prepared by previous ploughing and harrowing, furrows are opened at about four feet apart; these are filled with compost from the compost heap, which has been made fine by repeated turnings. With the plough the earth is thrown over the compost, the ridges formed by this operation are then flattened with the roller, and the plants set out in straight lines over the compost. The space between the rows is frequently stirred with the cultivator, and the ground about the plants kept loose by hoeing. By this means the whole surface is kept loose and friable all the time and the celery rarely suffers for want of water. When the plants have attained sufficient size they are carefully handled, and the earth drawn about each plant sufficiently to hold the stalks together. The earth is then thrown up to the plants with the plough and firmed about them with the hand. One earthing up towards the end of the season is quite sufficient.

THE WHEAT CROP.

The report of the Bureau of Industries for August gives a cheering account of the wheat crop of the Province. The fall wheat appears to have made steady improvement throughout the season, and in localities where it was regarded as hardly worth saving in May, good harvests have been reaped. The moder-

ately cool weather and occasional rain showers favored continuous growth and healthy maturity, and the grain is an excellent sample, being plump, hard and bright.

CORRESPONDENCE.

DOES FRUIT GROWING PAY.

Dear Sir,—With pleasure I purpose writing a series of contributions to the *Horticulturist*, embracing my observations and my experience in the culture of wheat and that of small fruits, shewing their relative cash returns per acre to the culturist. First I will take wheat *vs.* strawberries, the ground to be rich and in good heart. Very well, take wheat, rent per acre, $12; fallow, ploughing twice, $5; rolling, cultivating and harrowing, $3; seed and drilling, $3; harvesting and threshing, $5; total cost per acre, $28; product per acre, 40 bushels, $40; net proceeds, $12. Strawberries, rent per acre, $12; fallow, ploughing twice, $5; rolling, cultivating and harrowing, $3; marking and planting, $4; plants, 5,000 at $4, $20; cultivating and hoeing, $7; baskets, 6,000 at $5, $30; crates, $30; picking, $60; freight to Toronto, $30; commission on sales at 8 cents per quart, $48; total cost per acre, $250; product per acre, 6,000 baskets at 8 cents, $480; net proceeds per acre, $230. Then I have the next year less the cost of production, save baskets and picking. If some deem this too high, leave production of wheat at 40 bushels, and cut strawberries to 5,000 baskets, I still net $150 per acre. I may say strawberries yielded in this neighborhood, in several instances, 8,000 quarts per acre.

Yours respectfully,

Geo. Walker.

Beamsville, Ont., 21st July, 1884.

DISCOLORING OF THE GREENING APPLE.

For many years we were troubled with the skin on our Greening apples turning black, and the whole apple assuming the appearance of having been either badly bruised, or being affected with a sort of dry rot. They were invariably kept in barrels properly headed up and along side of Baldwin's, Russets, &c., but none of these varieties were ever affected in this way. They invariably preserved their natural color until about the beginning of February, when the discoloring would begin, and their sale would be very materially affected. The fruit, although badly discolored, was not rotten, for on cutting it, it would open up perfectly sound and fresh. Its appearance, however, was such as to materially affect its sale, and consequently we invariably endeavored to dispose of our Greening's early in the season, and retain our other varieties for selling later on. This season we left one of the barrels open to see what effect it would have, and we find, as a result, that the fruit has largely retained its original color, and is consequently much more saleable than those left enclosed in the original packages. From this we infer that Greenings should invariably be kept in a cool place, either on shelves or in an open bin, where they may be subjected to the free action of the air.

A. A. Wright.

Renfrew.

POULTRY.

Mr. Editor, — Although many months have passed since I left your county I still have interest there, and write to tell your readers how to make poultry raising a profitable business. The demand for early chicks, when from 8 to 10 weeks old, is very great, and in large cities like New York, New Orleans, Chicago, St. Louis and Den-

ver, they find a ready market, at from 50c. to 60c. per lb., but to obtain these high prices they must be hatched early, February, March and April being the best months. As hens are not setting by instinct that early, you must use incubators. They will hatch a larger per cent. of chicks than hens, and the chicks are very healthy, being entirely free from lice. I have two incubators that I made myself. They cost me $5 each, and hold 480 eggs. Any one can get directions for making an incubator like mine by writing to J. Bave, New Concord, Ohio, inclosing stamps for postage. My incubators are a complete success, and being so cheap are within the reach of all, and any lady can run them. I have 212 hens, and since March I have sold from these 212 hens and my two incubators $1,427 worth of chicks and eggs. Now is the time to prepare for the winter and spring trade. Make your incubators at once and give them one trial this fall. Then you will be ready to go to work intelligently. I run my incubators the year round, and think there is no business requiring so little capital that yields such large profits. I will soon write you an article on "Which are the most profitable varieties of poultry to raise," and on other poultry topics, if you wish.

POULTRYMAN.

W. G.

LETTER FROM NOVA SCOTIA.

MY DEAR SIR,—We are having a tropical rainy season. Rain nearly every day since the 1st July, and no prospect of any change. Hay makers are in despair; a great many have only began to cut their crops, and the quality will be greatly deteriorated, being long since past its prime. Fruit bloom was abundant and the season favorable for setting the fruit, but I observe a large proportion is falling during the protracted season of wet weather. The strawberry crop was much damaged by the rain, at least one-fourth of the fruit rotting or failing to mature. Local prices kept up well under the diminished supply, not falling below fifteen cents per pound at retail. Wilson is grown chiefly, but all varieties that succeed anywhere, do well here, except Sharpless, which is too large to ripen all through. It is like a very stout old Scotchwoman who replied to a question as to her health. "That there was ower muckle o' her to be a' well at ae time."

I am still in quest of a reliable Ontario fruit grower. I find there is a very great difference in the quality of apples from the different counties. A barrel of specimens from Meaford and another from Cobourg were no better in quality than Nova Scotia apples, and much inferior in size. From Galt came the best in quality I have had yet in *most* kinds. I have never seen a second lot of Ribston Pippins anywhere approaching in quality a lot of, I think, twenty barrels you shipped me from St. Catharines.

Last season the crop was poor everywhere. I got some pretty good from G. J. Miller, of Virgil, and from A. M. Pettit, of Grimsby; but a friend of mine dealing in fruit got a carload from Linus Woolverton, of Grimsby, whom I had supposed to be as reliable a shipper as could be found in Ontario, and a large proportion in the barrels contained utterly worthless fruit. I do not attribute the dishonesty to Mr. Woolverton, but to the grower who supplied him.

Mr. Miller generally sends me fine apples, but certain varieties do not succeed well with him; the N. Spy is always spotted and more or less misshapen, not ten perfect apples in a barrel; E. Spitzenburg from him is tough and too acid, from Galt this variety was fine, indeed most other

kinds were better in quality, but I do not know any one at Galt except Thos. Todd, who shipped to me so late in November that the lot was badly frozen before they reached St. John even.

Yours very truly,
CHARLES E. BROWN.

Yarmouth, N. S., 7th August, 1884.

CHAPTER ON CHERRIES.

The season for small fruits has come and gone, and most sorts have made a profitable return to the grower.

The crop of strawberries was very large. Prices were fair, but the hot weather during the latter part of June shortened the season. With but one or two exceptions the market was never glutted, and both buyers and sellers seemed satisfied.

Currants of all varieties were plentiful and very good prices were obtained. The same remark will apply to gooseberries. Good samples fetched from $3 to $4 a bushel.

Raspberries.—The supply was very fair, but I believe so large a crop as is generally raised was not forthcoming this year, but there were not many opportunities for the buyers to *bargain*. Those who had berries to sell asked a fair price and got it, those who waited till raspberries got cheaper had to go without.

Cherries.—This class of fruit seems to be a very uncertain crop to raise. When the cherry trees were in blossom there was every indication that a good crop of cherries would be had, but from some cause or other the supply of good fruit was very limited.

Many of the growers of this variety of fruit are very much discouraged by the continued failure to raise a crop of good cherries. I have been a large and successful grower of cherries for some years past, always obtaining good fruit and large prices. It is now twenty years ago when I first began to grow cherries. In getting the different varieties of trees I will say that it was not my own knowledge of which was the best to cultivate that enabled me to get such a good collection of cherries, but it is only fair to give the credit to a local well-known nurseryman who recommended them to me, and I commenced with the following varieties: — May Duke, Late Duke, Early Purple Guigne, Governor Wood, American Heart, Black Tartarian, Tradscant Black Heart, Black Eagle, Reine Hortense, Napoleon Biggarreau, Early Richmond, and Butner's Yellow. Yes, there was another — Knight's Early Black. The above lot you may consider as a splendid assortment, and I will give you my experience in cultivating them.

Early Purple Guigne.—This cherry is the earliest variety grown in this section of Ontario, and perhaps that is its great fault. The tree is hardy and a free grower, a good bearer, and fruit ripens about the middle of June. It comes in about the time that the strawberry crop is in the market, and sells well to the children in small quantities. This tree grew with me till it got 20 ft. high. The robins had been with me nearly three months, and, I suppose, subsisting on worms and grubs. This variety of cherry being the first in the season the birds go at them and devour them so rapidly that very few are left even of a good crop. It got to be so unsatisfactory to me that I decided to cut the tree down and get something more profitable to take its place. It is an excellent cherry, and indispensable among the early varieties; it's only fault was I could not get enough of them.

May Duke.—This is an invaluable cherry, and a very popular fruit. It ripens with me about the beginning of July, just as strawberries are over, thus bringing a good demand for it, with good prices—80c. to $1.00 a peck, wholesale. With me this tree has a

very peculiar habit of producing some branches which ripen much later, thus protracting for a long period the season in which its fruit is in use. I picked a large quantity about the beginning of July, and have picked fine fruit off the same tree on the 22nd and sold them for a larger price than what I got for the first crop. It is a splendid cooking and desert cherry, and ought to be cultivated by any person who has room for a tree.

American Heart.—This is a beautiful cherry, which comes in next. It is pink or red in color, and not so good a market cherry as the black varieties. This tree looks a handsome sight both in blossom and fruit, but of late years it has had a tendency to rot, which has been a great drawback in cultivating it. I shall speak further on in reference to the cherry rotting before it is ripe. This will apply to all varieties of that fruit, and I will suggest remedies.

Governor Wood is a fine light cherry, of the size and shape of the Napoleon Biggareau. Formerly it was one of the most useful trees I had. Last year the entire crop of some bushels all rotted—could not pick a quart of good ones off. This year there was scarcely a pint of bad ones; the whole crop was marketed very satisfactorily.

Black Tartarian.—This cherry has been to me a fruit of great profit. It is undoubtedly a superb fruit, and in size, flavor and productiveness it has no superior. Year after year I have had enormous crops of excellent fruit. They commence to ripen with me about the first week in July, and, if the weather is not very hot, the picking will extend over three weeks, and the further you go the better they come. Of late years there has been a great drawback in cultivating this fruit by its having the rot. I would advise those who have a tree full of Black Tartarians to begin to pick early. Do not wait till the crop gets ripe, for then you may find as many rotten as otherwise. When the cherries are the color of the May Duke begin to thin them out; you can get good prices for them, and those that are left on the tree will be benefited by their removal.

I will give your readers the remaining varieties, and also will suggest remedies for their growth, in the next number of the *Horticulturist*. E. C. F.

EXPERIENCE IN STARTING A FRUIT FARM.

Dear Sir.—I beg to give my experience in trying to start a small fruit farm, and in doing so I suppose I had better start at the beginning, which is that last April twelvemonth I bought 25 acres of land, most of which was in sod, and of course should have been well summer-fallowed before planting fruit in it, but I was in too great a hurry to wait a year for that, and, as I was assured by the person I bought from that there was no scutch grass in the land, I ordered about $100 worth of plants and trees. Of strawberries I set out the Wilson, Crescent Seedling, Bidwell, Charles Downing, Captain Jack, Sharpless, and the Early Canada, and a few each of the Manchester and Big Bob, and let me say that Little Bobbie would be a more appropriate name for the latter, if I got the true thing. The Manchester did so well both in standing the drought and the size, &c., of the fruit, that I let all the runners grow. The Early Canada set more fruit than any one I have, but a drought set in just as the fruit was changing color, and in consequence I did not get any fruit. In short, out of nearly 20,000 plants I set out the spring previous, I did not pick ten quarts of berries, and these were all from the Crescent Seedling and what came to me labeled Manchester, and I hope in future to plant largely of the two latter kinds with the Early Canada and the Sharpless to fertilize them.

In raspberries I ordered 1,000 Brandywine, 1,000 Turner, 500 Davidson's Thornless, 500 Gregg, and 100 each of two other varieties. I ordered the above except the Sharpless and Early Canada, from A. M. Purdy, of Palmyra, and with some other things my order amounted to nearly $100, but instead of getting what I ordered, he sent me things I never ordered in the place of what I did order. He did not send me one cane of the Gregg Raspberry, but he sent me hundreds of Green Prolific, the same as to the Bidwell, and also hundreds of the Glendale Strawberry. The latter strawberry, with Green Prolific, I never planted. This, I consider, extremely dishonest in any nurseryman. What would he (Purdy) think if he were to send $20 to a grocer for that worth of tea, and he kept his $20 and sent him soap instead. Why that would not be as bad, because soap is not a perishable article, but strawberry plants are. I also set out a few grape vines, a few plumbs and apples, of course, and I am trying the Flemish Beauty, Clapp's Favorite and the Sheldon Pears. The two first came out all right, but one of my Sheldon's was frozen down about 18 inches. This I expected, as it sent out a shoot about three ft. long. This I don't like in a fruit tree of any kind in our section. I want them to grow slow. I know the Flemish Beauty and Clapp's Favorite to be doing well in and near Perth. One Flemish I have had under my eye for ten years now. There are two seedling pear trees (Old Patriarchs) in the Township of Bathurst, that bear, I am told, large crops of fruit every year. I have seen the trees, but never when the fruit was in season. I hope to taste the fruit this coming fall. I boast of being successful at grafting, but I could not get a graft from one of these trees to grow for me. If the fruit suits me I will try again. At the time I found these pear trees in Bathurst I also found an apple I mistook for a Spitzenburg. It was in the month of March, as good a desert apple as the Spitzenburg, a good cooker, and the person (a highly respectable farmer) in whose house I got them assured me they grew on an old tree in his orchard, and he expressed himself as exceedingly sorry that the tree being very old was showing signs of decay. He could not give me the history of the tree. It was on the place when he bought the farm over 40 years ago. I took some scions home with me, and in the spring I grafted them into seedlings; I try always to have some for such purposes, and I hope next year to see some of them bearing fruit. I found another old apple tree that bears a good crop every year of fruit larger than the snow apple, and I think a little better in quality. This tree, I am assured, is a seedling. I hope also to see this tree fruit on my place next year. I am trying several varieties of apples, and I have a plum I found with a farmer that bears large crops of plums every year of a quality if not equal to the old English Magnum Bonum, they are nevertheless very good and a good size, and I expected to have seen it growing on my own grounds this year, as one of the trees I have set bore quite a lot of fruit, and some I took off to make sure of some maturing, as I felt rather anxious about it. I visited the tree every day and I found the plums to be dropping off until there was only one left, and as this one stayed for some time all alone I thought I was to have one, but woe is me, one day I went to look at my poor lone plum and found an insect of some kind making a seat of it, and whilst I was looking at it, down went the plum, insect and all. (No sparrow near.) I looked on the ground to find the insect, but could not see a trace of him. I wished to know whether the weight of the insect brought it down or whether it

ate the stem through. I picked the fruit up, but as my eyesight is not as it used to be, I could not tell, and my daughter had my microscope at school with her, so in the dark I concluded the insect ate the stem through, and as I could not find the insect I longed for a sparrow and a stone to throw at it, or a gun to shoot it. We grow in this section abundance of wild plums, and I find that the crop is a fair one this season.

I must not forget to mention that amongst other things I got from Purdy was a Russian apricot, and I am delighted to be able to say for the encouragement of others that it is doing splendidly, but I am a little afraid it is growing too fast for the coming winter. Will you please tell me if I am wrong. I think of cutting 8 or 9 inches off the longest shoots, and this is a thing I had rather not do if it would do without it.

All the above varieties of fruit trees and grape vines (the Worden, Moore's Early, Champion, Brighton and others), were planted in sod and are doing well. When I say planted in sod, perhaps I had better explain that after ploughing I dug out the sod, broke it up, and in the hole I put a shovelful of sand. On this I spread out the roots of the vine or tree; I then covered the roots well with sand. On top of this I placed the broken-up sods; the soil is clay loam. My theory was if you take a man from a rich diet to a poor one he does not suffer from indigestion, but if you take him from a low diet to a rich one there will be sickness sure, and we certainly kill a great many of our trees with the food we give; it makes them grow too fast, and they are then too tender to stand our winters.

My trees did not grow much last year, but they now are doing fine and are looking extremely healthy. I am only afraid of my apricot; it is doing too well to stand the winter. All my acquaintances tried to persuade me to summer-fallow, not to attempt to put my valuable trees into turned-up sod; passers bye would look over the fence and laugh. I could not prevent this; they have had their laugh and I have gained a year with my trees The ground, too, was uneven, and when I came to a hollow place where water would stand, I still planted a tree but did not dig a hole; I stood the tree up and built earth over the roots. I wheeled sand round it and rotten manure near the top, and then earth. By this means I had no blanks in the rows. If I had not taken my own plan of it I would have had to borrow a piece of ground to put the valuable trees into for a year that I picked up in the man ner mentioned above. I did not lose a single tree. I have often made the boast that I never planted a deciduous tree that did not grow, but last year when I looked at the ground (sod and full of scutch) I thought, well, the boast will be taken out of me this time. The trees I got from Purdy had been a long time on the road, and some of them had grown and were blanched when I took them out of the boxes. A fellow traveller in amateur horticulture was present and said he would not give me 10 cents for the whole thing, and what would be the use of planting them.

I have written the above facts, Mr. Editor, for those of your readers who are very orthodox and think two or three years must be spent in preparing the ground before fruit trees can be planted in it. I have read a great deal about the ground being well manured the year previous, &c.

I beg now to state that I read the yearly report of the Association with a great deal of pleasure, and I consider I derive a great deal of profit from said reading, but when I tell your readers that this spring, besides planting 150

gooseberries, 150 red and white currants, I planted 150 black currant bushes, they will doubt the profit part. and I will tell you why I went against the advice of the Association in this. In the first place, my ground being clay loam, it will suit them, and another thing I boast of is that I can always insure a good paying crop, but neither clay loam nor any other loam will give you a crop if you do not give them lots of manure, and even with plenty of manure you will fail every time if you hoe round them, for the reason that the roots of black currants are like a door-mat, almost so thick together and close to the surface so that when you hoe you cut the roots up. I have sometimes put manure round them in the fall, and in the spring I have taken a spade and carefully put it about an inch under the surface and turned the manure under in that way. The only fault I have to black currants is they do not ripen all at once. I wish I could get the Champion for that reason, and when I am using the word Champion let me ask that the grape of that name be not exterminated like the poor sparrow, until we find out what kind of wine can be made from it, and if good, I would consider it the most valuable grape ever introduced, for it is early, hardy and productive ; for what will we do in this eastern part of Canada when the Scott Act men take the whisky from us, if we cannot make ourselves a drop of wine. I often say that had this country been settled by some nation other than British we would be drinking our wine instead of this horrible stuff they choose to call whiskey.

Another time, with your permission, Mr. Editor, I will tell your readers a little of my experience amongst flowers, as I also boast a little about roses.

Yours truly,

GEO. MITCHELL.

PERTH, Aug. 18th, 1884.

NOTES ON SOME NEW FRUITS.

BY HON. M. P. WILDER.

I beg to state that your journal is carefully perused soon after its receipt. So it is with others as fast as possible, but yours is the Northern star, to which we look for information in your region. Our season has been very favorable for the small fruits, and has enabled me to test with some accuracy some of the newer kinds.

The Prince Strawberry is large, uniform, late, *very good* and prolific.

The Primo (of Berries) handsome productive, and of high flavor.

The Mrs. Garfield, both in plant and fruit, seems to have good characteristics. We are on the high road in the improvement of the strawberry, and the time is not far distant when we shall have an abundance of varieties allotted to the market and home uses in all sections of our land.

Manchester is a good plant and when fertilized by Sharpless has produced abundantly, but I have not observed the changes referred to in the proceedings of the American Pomological Society by such impregnation. However, we must look into this matter, strange as it may seem, for I am not too old to believe that there is nothing new under the sun in vegetable physiology, and I can well remember the time when my first attempts in hybridization were considered as almost ridiculous. Now it is an acknowledged science, and its bounds for improvement are without limit.

Of raspberries, our old Franconia, which came to us more than forty years ago, still carries off the first prize at our exhibitions. Cuthbert has done well. Souchetii-blanc, or White Transparent, as we have it, is my most reliable variety for home use. Caroline serves us well, and is a remarkable illustration of the influence of cross fertilization, a true hybrid, its fruit having the color, texture,

and flavor of and sending up suckers like the true raspberry, while the plant has the wood, foliage, and habit of the Caps, and like them also roots from the tips; but wonderful indeed as the effect of hybridization is, I am not prepared to believe that the raspberry has been crossed by the strawberry, as was represented at a late exhibition of the Horticultural Society of London.

The Marlborough raspberry promises well; plants sent me in May gave fruit July 10th to August 1st; a remarkable robust plant, having shoots four to six feet in height, and hardy; it will be an acquisition.

But I have written too much already, and will close by assuring you of my desire for the prosperity and usefulness of your journal and the cause to which it is devoted.

Dorchester, August 14, 1884.

THE WEALTHY APPLE.

BY T. H. HOSKINS, M.D.

This fine iron-clad fruit, which has proved such a "bonanza" to the fruit growers of the "cold north," has spread along our northern frontier and into the adjoining Provinces with wonderful rapidity, so that although it is only about fifteen years since the original tree bore its first apple, bearing trees and even orchards of it are to be found at short distances all the way from Washington Territory to the Gulf of St. Lawrence. The fruit itself has as few faults as any apple grown, being of good size, fine color, regular shape, a good shipper, "very good" to "best" in quality for eating out of hand, and for cooking. In season, like the Baldwin, it varies from early fall to all winter, according to locality, but in the northern part of Maine, Vermont and New Hampshire and in Quebec and New Brunswick it will keep until March or April without serious loss. The tree is a rapid and erect grower while young, very much resembling in the habit of growth and early and profuse bearing the Russian apples of the type of the Duchess of Oldenburgh. If allowed to bear when young the growth is checked, and the tree sometimes injured. This should be avoided by removing all or nearly all the fruit, until the tree has reached two or three inches in diameter, which is usually about five years after setting.—*Rural New Yorker.*

PROSPECT PARK.

About two miles from the City Hall or true center of Brooklyn, Long Island, and a half hour's ride by the horse-cars from the principal ferries of that city, is situated a pleasure-ground which in some respects we may term the most noteworthy in America. Prospect Park with its five hundred acres is by no means the largest or most elaborate place of public resort in the country, but it has this one distinguishing characteristic above all other parks in that it realizes in the highest degree the true pastoral idea, the embodiment of which gives the old English lawn its special and peculiar charm.

The main approach to Prospect Park is perhaps the most artistic feature it possesses. A great oval paved space of ten acres, called the Plaza, and situated at the junction of Flatbush and Ninth avenues, introduces the visitor at once to the most agreeable and impressive portion of the park. Embracing from its high point of vantage a comprehensive view of Brooklyn for miles, the effect of this Plaza is greatly enhanced by the character of its boundary lines, which consist of several mounds twenty-five feet high, covered with choice Evergreens. It is curious to note how, with all their actual artifice, these mounds impress the observer as genuine bits of the natural formation of the region. In the centre of the Plaza is a colossal

fountain and statue of President Lincoln.

Passing through this noble vestibule, distinguished alike for amplitude, symmetry, and dignity, we enter upon the area of the park itself. Our space does not, of course, permit us to describe in detail the many features of interest that meet one at every turn throughout the intricate maze of six miles of carriage drives and eleven miles of foot-paths, but we will consider briefly a few of the more important and attractive points.

As we enter and saunter along the west side of the park, we find ourselves completely shut out by trees and shrubs from Flatbush Avenue, a few yards away. The sense of the close neighborhood of the city is still farther eliminated by the natural woodland appearance of the system employed in arranging the trees and shrubs. A short distance from the Plaza, a glimpse through an archway under the main drive, evidently placed at precisely this point for a distinct purpose, reveals a great far-reaching sweep of undulating meadow fringed by remnants of an original forest of Oak, Elm, and Chestnut. This green or Long Meadow, as it is called, consists of not over twenty-five acres of open grass space; but its natural hills and hollows have been managed so as to give, through our peep-hole of archway, the impression of an unbroken perspective of miles. This feature is the most important in the park; for, without a single carriage road, a field of ample dimensions is offered for the illustration of the pastoral idea.

"Thousands of people," says the "Report" of the landscape architects, "without any sense of crowding, stroll about the level or undulating, sunny or shady turf spaces that are to be found in this strip of pasture or woodland." Here, as elsewhere, the original features are not only strictly adhered to, but actually intensified by raising the hills with soil and trees and deepening the hollows. Old forest trees are generally throughout the park carefully preserved.

Passing on by a deep dell where a small pool and steep hill-side are beautifully ornamented with choice specimens of rare trees and shrubs, and where the water and open ground are arranged specially for the amusement of children, we come by devious ways past a deer paddock, protected by a sunken moat and fence, to an important region of the park.

Here we find, on the borders of a lake of sixty acres, an open space finely decorated with carved stone balustrades and vases. Within this space grow some of the best trees and shrubs of the park, choice Elms and Maples from Japan, America, and Europe, and on the hill-side, remarkable specimens of Rhododendrons and Conifers from all parts of the world. It may be truly said that some of these Conifers, Silver Firs, and Arbor Vitæs, are hardly equaled by those of any other lawn in America. The spot is, moreover, so fortunately protected from cold winds, by embowering hills, that Evergreens which usually fail north of Washington and Virginia are here found in perfect health and vigor. Cannas, Colocasias, and other tall-growing foliage plants, tastefully arranged, thrive vigorously and produce a rich tropical effect. A rich display of bedding plants, Coleus, Geraniums, Salvias, Alternantheras, etc., is presented at this point year after year in connection with the refectory and shelter, which are perhaps the most ambitious architectural structures of a park where the pastoral idea of wide-spreading turf and woodland is intended to be everywhere dominant.

Passing under an archway and down by a lovely pool where stands the skate-house in winter, we come to the grove

where the band discourses sweet music in summer, and so on, past wide meadows and bold hill-sides clothed with fine Evergreens, to Lookout Hill, the highest point in the park. From this point the eye wanders over a distant view of the ocean on one side, and on the other over the great city of Brooklyn. The same sense of largeness of design accompanies this outlook that is felt in considering the general treatment of the park, whether the subject be meadows, trees, or water.

Turning our faces toward the main entrance and Plaza, we pass through a lovely ravine with picturesque masses of rock covered with Rhododendrons, Evergreens, and vines, and on by a quaint dairy-house and restaurant embowered in charming masses of the Japan Ivy or *Ampelopsis tricuspidata*. Not far from here, across the Long Meadow, we meet numerous groups of the grand old native forest trees that have here, as elsewhere, been carefully and judiciously preserved, and frame so beautifully the open grass spaces of Prospect Park.

We might ramble, indeed, for hours over the walks and drives of this noble pleasure-ground and find charming near and distant landscapes at every turn, but the longer we ramble, the more surely we arrive at the conclusion that, for attractive open spaces of greensward and valuable specimens of rare and choice trees, Prospect Park must bear the palm over all other parks in America. —S. Parsons, jun. *in American Garden.*

THE EARLY CLUSTER BLACKBERRY.

The plant was discovered, about eleven years ago, on the farm of Mr. Charles W. Starn, in southern New Jersey, where it attracted attention for its early and profuse bearing, and was transplanted and propagated for market purposes. It is a vigorous, healthy grower, hardy and extremely productive. The berries are of medium to large size, and of best quality; sweet, without hard, bitter core—so objectionable in a Blackberry—and sufficiently firm for shipping. It ripens but little earlier than Wilson's Early; but, as the berries mature promptly, the entire crop is harvested in a few days, before the bulk of the Wilson's Early is marketable. In this consists one of its main points of value, and also in that it is free from the abnormal habit of forming double flowers which has become so disastrous to some of the older varieties.

We have not seen the berry, but many experienced, practical fruit-growers who have given it careful examination are favorably impressed with its merits.—*American Garden.*

IMPROVED ONION CULTURE.

Onions are not a difficult crop to raise. They are no more perishable than potatoes. They do not require immediate marketing when harvested, but the grower can await a favorable opportunity in the market, if he is not satisfied with fall prices. In large markets an entire crop can be disposed of any day to shippers and dealers, as onions have their market value as firmly established as corn or potatoes. While quotations may vary somewhat, from day to day, a farmer can generally tell by them what he can get for his crop.

I started to give my own experience with onions as a farm crop. The methods of cultivation I advocate may perhaps conflict with the opinions of others engaged in the same business. Contrary to the accepted theories and practice of most onion growers, I do not believe it essential that onions should be grown on the same piece of land, year after year. I have invariably had better success with new ground each year. Now I do not wish it under-

stood that this statement implies that any new ground is preferable. I insist that the land shall be as rich as it is possible to make it previous to taking it for onions. The reason why many think that old onion ground gives better results than can be expected with new land the first year, is because the continued cultivation and the high manuring which onions need have improved the land up to the necessary standard. But if one can start with this standard already established it is just as well. To insure this point, I take tobacco ground that has been manured with stable manure for a number of years, not less than ten cords to the acre each year. In the fall previous to growing an onion crop, I plow under a coat of tobacco stems (not stalks) at the rate of 2½ tons per acre, costing about $30. I prefer these to stable manure as an immediate fertilizer, for they furnish a high rate of potash, which onions need, and besides bring in no weeds. The stems also have a tendency to keep off the maggot and other pests. The latter result is also assisted by plowing in the fall. The plowing should be done as early as the first of October, to insure the thorough rotting of the stems, and should be as light as possible, for deep plowing is at any time detrimental to an onion crop.

In the spring, plow to the depth of five inches as soon as the land is in good condition to work. We usually plant beets and spinach first, as it is necessary that they should be as early as possible. Next peas and other of the earliest crops, and then onions. We plant the seed of the whole onion first, as this is the best for the early fall market.

As a topdressing any of the better grades of superphosphates will do. 600 pounds of this is sufficient for an acre, dragged or raked in. The ground should be made as fine as possible before sowing. Flat land is the best, and in order to prevent water—after heavy rains—from standing on the onions, I plow in ridges of one rod wide, leaving a shallow furrow and raking into it from both sides. This leaves the ridges slightly rounded and sloping a little each way toward the furrow, thus shedding the water, although the depression is but slight. These furrows necessitate leaving out one row of onions for each furrow, but it pays if heavy rains or sudden showers take place, as at certain stages of growth, onions are damaged if water stands upon them, if only for a short time.

The rows should be 14 inches apart, and six pounds of seed per acre is, I think, the best rule. Many plant only five pounds; should all come and grow to maturity this is quite sufficient, but as there are some drawbacks, that result is not always sure. I spat the rows after the planter with a hoe, as this packs the soil around the seed, prevents drying up, and gives an opportunity to cover any little place skipped by the follower. I think this pays, as the seed comes sooner and evener.

The use of wood ashes is to be recommended, but I think they are best applied at the second weeding. I have known a crop ruined by their too profuse application, but if rightly used they are one of the best fertilizers for onions. It is never advisable to mix them with other fertilizers, especially those whose principal element is ammonia, or to apply them at the same time.

With regard to varieties, I have had the best success with the Southport stock, the White and Red Globe. The former is by far the best white variety; though not as early as the Tripoli, it is a better cropper and keeper. The Tripoli will not keep later than October, under ordinary management. The Wethersfield Large Red is a standard

favorite with most growers and in most markets, owing to its keeping qualities; it is also a variety that yields well. The Danvers-Yellow I have never had the success with that other growers report; it is hardy and a long keeper. I raised the past season only the White and Red Globe of Southport seed. The "stand" was not a good one, owing to unpropitious weather after the onions had come up and while they were growing out of the double, but I had larger onions for it and the yield was 788 bushels per acre. The largest onion I weighed tipped the scale at 30 ounces, and pound specimens were common. I did not observe any difference in the yield of these varieties, and have always found them equal in that point to any other kind, if properly managed. Three others beside myself planted the same seed the past season, used the same fertilizers, and followed the same method throughout that I did, and having a better stand of onions beat me in the result; two of them had over 800 bushels per acre, and one upwards of 950. It is not necessary to state that these growers will continue in the business, as they have all marketed their crop at an average price of 75c. I began marketing onions this year in just 120 days from planting.—*N. Y. Homestead.*

PEAR BLIGHT.

Among the numerous experiments, relating to the diseases of plants, which have been performed at the Station, those on pear blight have excited the most interest. The first case of blight noticed in this vicinity was on a pear tree in a neighbor's yard, July 11, and on July 26 a small branch of quince in the Station garden was found blighted. These were both promptly destroyed. No other case of spontaneous occurrence of the disease has been observed within a mile or more of the Station. It has, however, appeared in considerable virulence among the pears and quinces in some localities in this region.

This seemed a most favorable opportunity of investigating the infectious nature of the disease, and accordingly on July 16, a pear orchard was visited and some of the diseased branches secured. Among these was one with viscid, yellowish drops exuding from the stem. With a needle a puncture was made about an inch from the extremity of several branches of a pear tree in the garden, and a very little of this excretion inserted. It was applied in the same manner to some terminal leaves, but a difficulty in manipulation rendered the result doubtful, for the excretion being very sticky and the leaf thin, it was not easy to remove it from the needle and insure its remaining in the wound. In from six to eight days every branch innoculated showed unmistakable signs of the blight. The bark turned brown and then blackish about the puncture, the color extending gradually through the stem, passing upwards toward the end of the branch much faster than downwards or around the branch. On the ninth day most of the wounds exuded some of the same viscid fluid which was used in the first place. They were all removed on the thirteenth day to prevent the disease securing any permanent hold on the tree. Most of the infected branches were blackened for a foot or more, and all the tender young leaves as well, all being thoroughly dead. It was noticeable that the full-grown leaves were rarely affected, and mostly remained green up to the time of the removal of the branch. Only one of the inoculated leaves became infected, and this was a young, tender one. The disease spread to the stem, and worked the same as in the other cases.

At the same time, a portion of the same virus was applied to two young

apple branches. Both showed the disease in eight days. It spread gradually until on the thirteenth day about two inches from the apex was quite dead and dry, and the branches were removed.

On July 24th an inch or so of diseased pear stem was sliced up in a watch glass half full of water, and, after stirring about, the chips were all removed, which left the water slightly milky. This was used to inoculate with, by making a puncture with a pin and adding a small drop from the watch glass. It was applied to the branches of several kinds of fruit, but sufficient time has not elapsed at this writing to show results, except in the case of a very young branch of June berry (*Amelanchier Canadensis*) about six inches long, which showed unmistakable signs of blight on the sixth day. But the most remarkable results yet secured were gotten by inoculating the fruit of Bartlett pear with this watery infusion. On the sixth day they were all blackened for some distance around the point of inoculation and exuding a copious flow of yellowish fluid which ran down the side and dropped on the ground. In fact, each was a great running sore. Upon cutting open the pears they were found to be discolored almost throughout their interior. Inoculation at the same time on quince fruits showed the disease in seven days, but without any exudation, and, upon cutting them open, only about one-fourth the interior was affected.

We may make the following general statements which the experiments so far tried (some sixty in all) fully sustain. The disease known as pear blight is infectious, and may be transmitted from one tree to another by inoculation. It is not confined to the pear but may attack other pomaceous fruits, as the apple, quince, English hawthorne, and June berry. It is more active, and progresses most rapidly upon young and succulent portions of the tree.

Under the microscope any bit of diseased tissue shows inconceivable myriads of minute bacteria which fill the water of the slide in which it is mounted, like a cloud. It is, therefore, not necessary to depend on external appearances in order to determine the progress of the disease in a branch, for the microscope will decide with absolute certainty. There can not be a rational doubt that the bacteria are the cause of the disease.

Experiments are now being tried to determine the mode by which the disease is naturally propagated.—E. Lewis Sturtevant, *Director N. Y. Agricultural Experiment Station.*

INSECT PESTS.

The striped cucumber beetle, *Diabrotica vittata*, is a pest well known to the garden. We have applied kerosene mixed with sand, an ounce to the pound, to the soil about the plants of cucumbers to prevent his ravages, but with little, if any, beneficial effect noted. We also tried soluble phenyle diluted with water at the rate of a tablespoonful of the former to a gallon of the latter; the application seemed but a partial remedy for the attacks of the insect, and proved injurious to the plants. Soluble phenyle mixed with sand in the proportion of one ounce to the pound proved almost instant death to the plants wherever it touched them.

In order to test the influence of noxious odors in repelling the striped bug, we placed among the plants of a hill of squashes a few corn-cobs that had been dipped in coal tar, placed a frame of mosquito netting over the hill and introduced a dozen or so of the bugs. The insects applied themselves to the leaves of the squash vines with their usual relish, and the following day we found that instead of the enclosed bugs

attempting to make their escape through the netting, numerous visiting bugs were at the outside of the cover attempting to make their way in. The same result was noted as following the application of corn-cobs dipped in soluble phenyle, a liquid posessing a powerful odour resembling that of coal tar.

Paris green mixed with water, half a teaspoonful to two gallons, when carefully applied to both sides of the leaves of cucumber or melon vines, is nearly efficacious; when applied only to the upper side of the leaves, however, it is of less value, as the beetles remain much of the time during sunny weather upon the lower side of the leaves and upon the stems.

Kerosene emulsion, diluted with eight parts of water, did not keep away the beetles, while it was injurious to the foliage.

The cabbage caterpillar, the larva of *Pieris rapae*, was effectually mastered by the use of Buhach powder applied with a bellows. We are making further trials to determine what degree of dilution may answer for successful use.

The asparagus beetle, *Crioceris asparagi*, has made its appearance in the Station garden. We find Paris green applied in water, sure death to the larvæ, although neither this nor the kerosene emulsion seems to have apparent effect upon the beetles themselves.

The currant worm, the larva of *Nematus ventricosus*, succumbs readily to hellebore powder, when the application is made while the dew is on the plants so as to cause the powder to adhere to the leaves. Applied so as to adhere the application lasts for several days; the dust of the hellebore kills, however, very rapidly, the caterpillars with which it comes into contact, and the substance may be applied dusted from a dredger, as soon as the young larvæ appear. The kerosene emulsion, as noted above, was but partially successful. Buhach powder in the dilution of a quarter of a pound to three gallons of water was but partially successful.

Buhach is the trade name for the pulverized flowers of *Pyrethrum cinerariæfolium*, now extensively cultivated in California. It is sold, put up in tin cans, and should be purchased in these original packages. Its use as an insecticide is highly recommended by our best entomologists, and it is certainly worthy of extended trial.—E. Lewis Sturtevant, *Director N. Y. Agricultural Experiment Station.*

THE OLEANDER.

This beautiful shrub belongs to the Dog-bane family, and is poisonous. It is found in the Levant, and some parts of Palestine. In Florida it is so common as to be little esteemed. It grows in hedges and groves, and often attains a height of twenty-five and thirty feet. Galveston is called the Oleander City because it grows there so abundantly. They are planted in rows on the outer edge of the sidewalk, and just inside of the fence of many residences, so that they form a perfect arch, and are laden with bloom for several months. The red is the most common variety, and is the hardiest, though the white is by no means rare. Galveston, Texas, is situated on an island of the same name. The soil is sand, with a mixture of decayed vegetable matter.

In starting Oleanders, after they have attained a height of eight or ten inches, it is best to pinch off the stalk above the second or third joint, and this will force it to branch; after these shoots are sufficiently grown, pinch them back, and thus a thick bushy plant will result, and blossoms be much more abundant.

Here at the North we rarely find other than the red or rose color, but there are numerous beautiful varieties; of a

few of these we will give the names. *Atropurpurea plenum* a double flower, of a rich, dark purple color ; *Cardinale*, rich double vermilion, beautifully shaded ; *Gloriosum*, large double flowers of a bright cherry crimson ; *Prof. Durand*, pale yellow, semi-double ; *Flavum duplex*, semi-double, pale sulphur ; *Lilian Henderson*, the most prolific bloomer and finest of the white-flowered varieties : the flowers are double, full-petaled, rose-like in form, deliciously fragrant.

On small plants the double varieties frequently produce semi-double flowers, so one must not think they have been deceived, should this be their experience.

Oleanders require much moisture ; that probably is why they are botanically termed Nerium, from the Greek *neros*, humid. I bed mine out in the summer, and think it is better than to keep them in pots. I find they root readily from cuttings placed in a bottle of soft water, and kept in a sunny window. All of the leaves, excepting two or three at the tip of the slip, should be removed.—Mrs. M. D. Wellcome, in *Ladies' Floral Cabinet.*

Grafting Wax.—Last spring, after considerable trouble, this recipe was obtained for grafting wax, and as it has proved satisfactory, it is given for the benefit of others : Take 1 lb of rosin, ½ lb. of beeswax, and a little less than ½ lb. of tallow. Melt together in a small iron kettle, and stir thoroughly that the ingredients may be well mixed. Pour into a dish of cold water, and when cool, break into three or four pieces, and pull like molasses candy until white and fine-grained. When the whole is properly worked, divide into eight pieces, form into rolls six inches long, and wrap in oiled paper. To clean the kettle, rub it while yet hot with a teaspoonful of lard or tallow, and wash out with soap and warm water ; repeat this, and rinse, and it will be as clean as ever.—O. A. O., *in Country Gentleman.*

BOOKS, &c., RECEIVED.

Report of Ohio State Horticultural Society, for the year 1883-84. G. W. Campbell, Delaware, Ohio, Secretary.

Toronto Weekly News, Vol. I., No. 1. E. E. Sheppard, Editor and Proprietor, 106 Yonge Street, Toronto. Subscription $1 a year.

Canadian Entomologist, Volume XVI., No. 5, published by the Entomological Society of Ontario, at London, Ont., $1 a year. E. Bayne Reed, Treasurer.

Canadian Dairyman and Farmer, Vol. I., No. 1, published at 162 St. James Street, Montreal, 50 cents a year. A monthly journal devoted to the dairy and allied interests of Canada.

The Lever, published weekly, at 87 Washington Street, Chicago, Illinois, devoted to the interests of prohibitory legislation, and opposed to the licensing system in any form or for any price.

Box of Gooseberries for a name, from Mr. Geo. Smith, Manilla, Ont. We think this is the American Red, but not having grown the variety we can not speak with confidence. Downing describes the fruit as being of the size of Houghton, but darker in color when fully ripe ; flesh tender, sweet, and very good. Mr. Smith says : about four years ago I ordered of some Yankee tree pedlars one hundred gooseberry plants, viz , fifty Houghton Seedling and fifty Downing's, but the result was I received about one-third each of Houghton Smith's Improved, and the variety I send you per sample post to-day. The berry somewhat resembles the Houghton, it is of better quality, but not quite so productive. It makes about the same growth of wood per year as the Houghton, but is inclined to crawl along the ground.

LINES ADDRESSED TO A BED OF PANSIES.

(Written a few years since.)

Bright eyed pansies opening wide
In the glory of your pride,
Who would think that fashion's hour
Over you could cast its power.

Yet you're now the reigning belle
Such at least the florists tell;
Well you merit all the fame
Which is thrown around your name.

Dare I now with you compare,
What by nature still you are,
Those tiny things the children bring
In the early days of spring.

True I love your happy face,
Though the smallest of your race,
And you love a quiet spot,
Well contented with your lot.

You, I call the laughing flower,
You enjoy a shining hour,
And you bear transplanting well:
To my heart repose you tell;
For I've not the calm content
Of my little favorite yet.

Would the meekness that you teach,
Every discontent could reach;
Would all hearts were free from guile,
As your playful winning smile;
Would each mind were daily taught
With the lessons you are fraught.

* * * *

Where is reason's boasted power
Which is baffled by a flower!

M. W. M.

A TREELESS COUNTRY.

"I had a dream which was not all a dream!"
A great State was a desert, and the land
Lay bare and lifeless under sun and storm,
Treeless and shelterless. Spring came and went,
And came, but brought no joy; but in its stead
The desolation of the ravine floods
That leaped like wolves or wildcats from the hills
And spread destruction over fruitful farms,
Devouring as they went the works of man.
And sweeping southward nature's kindly soil
To choke the watercourses, worse than waste.

The forest trees that in the olden time—
The people's glory and the poet's pride—
Tempered the air and guarded well the earth,
And under spreading boughs for ages kept
Great reservoirs to hold the snow and rain,
From which the moisture through the teeming year
Flowed equably but freely—all were gone.
Their priceless boles exchanged for petty cash,
The cash had melted, and left no sign;
The logger and the lumberman were dead;
The axe had rusted out for lack of use;
But all the endless evil they had done
Was manifested upon the desert waste.

Dead springs no longer sparkled in the sun;
Lost and forgotten brooks no longer laughed;
Deserted mills mourned all their moveless wheels;
The snow no longer covered as with wool
Mountain and plain, but buried starving flocks
In Arctic drifts; in rivers and canals
The vessels rotted idly on the mud
Until the spring floods buried all their bones;
Great cities that had thriven wondrously,
Before the source of thrift was swept away,
Faded and perished, as a plant will die
With water banished from its roots and leaves;
And men sat starving in the treeless waste,
Beside their fruitless farms and empty marts,
And wondered at the ways of Providence!

New York Sun.

THE NEW ORLEANS WORLD'S EXPOSITION.—California expects to make a point at the World's Fair next winter by sending to the Crescent City a wonderful collection of photographs of natural scenery. Photographers in various parts of the State are at work making views of the most noted mountain and valley scenes. "The glorious climate of California," has heretofore been regarded as one of the chief promoters of the beauty of the photographs made on "the slope;" and now the matter will be brought to a test, for the photographs of all nations at the great Exposition will be placed side by side.

CURRANTS.—Currants are yearly growing in favor and the price of the fruit advancing; and now currant culture is profitable, and likely to continue so for a series of years. Ground can not well be made too rich for currants and gooseberries. Plant in rows four feet apart, and plants three feet apart in the rows; give thorough culture or deep mulch over the entire surface, cut out all wood of three years' growth (or after first crop is often considered better), and a good crop is almost certain. Red Dutch, White Grape, Victoria, and Versailles are still the favorites.—*The Prairie Farmer.*

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPP, CLARK & CO., COLBORNE STREET, TORONTO.

Rural New Yorker

THE

Canadian Horticulturist.

VOL. VII.] OCTOBER, 1884. [No. 10.

WILLIAM SAUNDERS, F.R.C.S.

Instead of our customary fruit or flower illustration we are enabled, through the courtesy of the *Rural New-Yorker*, to present our readers with a very good likeness of our much esteemed President of the Fruit Growers' Association of Ontario. This departure, we are confident, will be hailed with great satisfaction by thousands of our readers, all of whom, and especially those who enjoy the pleasure of his personal acquaintance, will be delighted to possess so good a representation of one whom we all delight to honor. That our readers and fellow members of the Fruit Growers' Association may become more fully acquainted with what our President has done already to make the world better and wiser for his having lived in it, we copy from the *Rural New-Yorker* a sketch of his labors to the present time.

"This gentleman, who has attained a high reputation both on this continent and in Europe as an entomologist and horticulturist, was born in Crediton, Devonshire, England, on the 16th of June, 1836. He removed with his parents to Canada when only twelve years of age, and at fourteen was apprenticed to a chemist, and in chemistry he is still engaged. He began the study of entomology associated with that of botany nearly thirty years ago, and published in the Canadian Journal for May, 1863, the first list of plants found in that part of Western Ontario in which he resides, embracing 545 species. During the same year he took an active part in the organization and work of the Entomological Society of Canada, which is still in a flourishing condition, but known now as the Entomological Society of Ontario. On the establishment of the Canadian Entomologist in 1868, he became a constant contributor to its pages. In 1875 he was appointed editor of the Journal, and was at the same time elected President of the Society, and has ably and acceptably filled both positions ever since. In the fifteen volumes of the Entomologist closing with December, 1883, we find no less than two hundred and five papers from his fertile pen, and besides this, he has been one of the chief contributors to the fourteen annual reports of the Entomological Society, which have been published during the same period.

"In 1867 he was elected a Director of the Fruit Growers' Association of Ontario, and has continued till this time as a Director, and has written many valuable papers for its annual reports. He was chosen President of the Association in 1882, in which position he is still retained. Thoroughly posted on every important subject, quick, pleasant and decided, he presides with grace, and conducts a meeting with pleasure and profit to all. Having a large experimental ground, he has tested a great variety of fruits and is well informed in reference to those best

adapted to the climate of the Province of Ontario. He has also taken a lively interest in other departments of horticulture and in forestry, and has done much to awaken an interest in these matters in the Province in which he lives.

"Having combined fruit growing on a large scale with the study of entomology, he has had special opportunities for becoming acquainted with those insects which are injurious to fruits, and has recently published a most useful and beautifully illustrated volume of over 400 pp., on this subject, entitled, "Insects Injurious to Fruits," in which all the practical information extant has been brought together and supplemented by the results of his extensive experience.

"In 1880 the Government of Ontario appointed a special commission to inquire into the progress and condition of agriculture in the Province. Mr. Saunders was appointed one of the commissioners, and was charged with the special duty of inquiring into the subjects of fruit growing and forestry, insects and insectivorous birds, and bee-keeping. The results, mainly of his work, are embodied in a volume of over 350 pages, which was published by the Ontario Government as one of the series of reports presented by the commission.

"He has been an active member and Fellow of the American Association for the advancement of Science for many years, and has filled several important offices in that learned body. Two years ago when the Royal Society of Canada was organized, he was selected by the Marquis of Lorne as one of the original twenty members, of whom the biological section of that important society is composed.

"In other fields than natural history and horticulture, he has also achieved a desirable reputation. As a chemist and pharmacist he is well known throughout the United States as well as Canada, and has filled almost every post of honor in the American Pharmaceutical Association, of which he acted as President in 1877-78, and delivered his retiring address at the meeting held in Atlanta, Ga., in November, 1878. Many of the papers contributed by him on pharmacy have been re-published in England and translated and published in a number of Continental journals; and on account of the service he has rendered in this department he was elected, in 1874, an honorary member of the Pharmaceutical Council of Great Britain, a position he holds for life. Further honor was conferred upon him in 1883, when he was elected a Fellow of the Royal Microscopical Society of London, England. Within a few months he has received from the Duke of Mantau and Monferrat a handsome and valuable gold medal, known as the Mantau Medal, in acknowledgment of valuable services in the interest of Natural Science. In 1882 Mr. Saunders was appointed by the Government of Canada Public Analyst for the western part of the Province of Ontario, in which capacity he has already done good service in detecting and exposing adulterations, especially in articles of food. Three years ago, on the organization of the Medical Department of the Western University in London, Ont., he received the appointment of Professor of Materia Medica, a chair he fills with credit to himself and to the school.

"The multitude of duties with which the subject of our notice is charged has not lessened his devotion to horticulture; he has worked for many years, and is still conducting series of experiments in the cross-fertilization of fruits and flowers; among the results already obtained are several good raspberries, gooseberries and grapes"

Our Association may well feel proud in having a gentleman of such broad culture and at the same time so profoundly interested in all the objects for which it exists, to preside over its deliberations and promote its interests. We do not appreciate the self-denying labor which our President performs in his efforts to advance the welfare and enlarge the happiness of every grower of fruit and every lover of flowers. Long may he live to bless the land with his unselfish labors, and when from them he rests coming generations will bless the memory of his name.

GEORGE MITCHELL'S EXPERIENCE.

It seems that we have been guilty of a very gross breach of journalistic etiquette in publishing Mr. Mitchell's letter, page 204, entitled "Experience in starting a fruit farm." In that letter he speaks in not very complimentary terms of a brother editor, and we failed to draw the pen through his name, which we ought to have done, and we are very sorry that we did not, and now to make the *amende honorable* as far as it is in our power to do so we publish his communications on the subject, although he says they were not written for publication.

Office of Purdy's Fruit Recorder and Cottage Gardener, and Palmyra Nurseries, Pylmyra, N.Y., Sept. 9, 1884.

DR. BEADLE, Sir,—I am *surprised* to find *you* opening your paper to such an attack on me and my business. This man Mitchell ordered stock *with the knowledge* that my catalogue plainly states that I must have the privilege of substituting other sorts *equally* as *good* in case I should be out of any sort. I have *repeatedly* stated that if any substitutes I made were *not* satisfactory I would make them so. Your allowing such an attack on me and my business is something I have never yet seen or heard of in any horticultural paper. I could print page upon page to shew what kind of stock I have received from such men as Parry, Collins, Lovett, Roe, and others, but I do not think I have the *right* to do it. I had always looked upon you as a friend; but this breach of etiquette in journalism shows me my mistake. There is another side to this matter of Mitchell's but I do not care to waste ink about it, nor neither do I write this for publication.

Respectfully,
A. M. PURDY.

The same mail brought the following post card, addressed Dr. Beadle, St. Catharines, Prov. Ont.:—

Office of A. M. Purdy's Fruit, Farm and Recorder, Palmyra, N Y., Sept. 9, 1884.

You will probably find that the *Recorder* with its 20,000 circulation has about as long a handle as your little *Horticulturist*, with its 800 to 1,000 circulation, and you *may* find that *you* have not always given full satisfaction in *your* trade.

Very truly, &c.,
A. M. PURDY.

Now we hope that our readers, though comparatively few in number, will understand after this that our brother Purdy is an honest, straightforward man; that he does just as he advertises to do; and surely no man can ask more. And further, we wish our correspondents to understand that, having the fear of the long handle of the *Fruit Recorder* before our eyes, we shall be very watchful hereafter, and not allow any complaints against brother Purdy to slip into the *Canadian Horticulturist*. If they have any grievance of this kind they must ventilate it elsewhere. We trust they have sufficient consideration for their Editor to be willing to forego the satisfaction of airing their complaints before the few readers of our little *Horticulturist*, when by doing so they will be exposing all our business transactions to the gaze of twenty thousand people. A word to the wise is sufficient.

NOTES ON SOME NEW FRUITS.

CORRECTION, BY HON. M. P. WILDER.

We are under obligations to our venerable correspondent for calling our attention to a blunder which has been made in the printing of his letter on page 207, and we wonder that it escaped our notice when reading the proof

The names of the Prince and Primo strawberries should be transposed. It will then read, as written by Mr. Wilder: "The Primo Strawberry is large, uniform, late, very good, and prolific; the Prince (of Berries) handsome, productive, and of high flavor."

The venerable President adds that in speaking of the Marlboro' Raspberry he wrote, "and if hardy it will be an acquisition."

SUPERB RASPBERRY.

Mr. Purdy says that this berry is "the best, largest, and most prolific raspberry" on his grounds. It is far from being the largest, or best, or most prolific on the grounds of the editor of the *Canadian Horticulturist.* The Cuthbert excels it in all these particulars on our grounds.

PEACHES AT KINCARDINE.

We have received a peach grown at Kincardine, that in point of size, beauty of appearance and excellence of flavor plainly shows that good peaches can surely be grown at that place. The tree from which it was taken, we are informed by Mr. Joseph Barker of Kincardine, is growing in the garden of Mr. E. Miller of that town; that it originated from a peach-stone thrown out of a window, and was transplanted when one year old. The tree is now six years old, thrifty and healthy. When it was three years old it bore five large peaches, the following year the fruit was destroyed by a late spring frost, last year it bore about a bushel of handsome peaches for which Mr. Miller was offered $5, and this year it produced 50 fine peaches.

The peach-stones from this tree ought to be planted and the trees that spring from them carefully preserved until they fruit, when those that yield fruit of satisfactory size and quality and ripening in good season, can be multiplied by propagation to any desired extent. In this way a race of hardy peach trees can be obtained suited to the climate of that part of the country. It seems to us that this seedling, which very much resembles the white-fleshed rare-ripe peaches that have been grown in this vicinity, should be propagated and planted in other localities in that neighborhood in order to ascertain what is its ability to endure the peculiar climate of that region. But the opportunity to raise a number of seedlings from a tree yielding fruit of such excellence should not be lost, for it is in this way that trees of more hardy constitution than those grown even here can be secured, trees that are adapted to a more northern latitude.

THE CHERRY SLUG.

This pest has been unusually abundant in the county of Lincoln during the past summer. Pyrethrum, known also as Persian Insect Powder, dusted over them in the dry powder or mixed with water in the proportion of a tablespoonful to a pailful of water, and sprayed over the trees with a fountain-pump, is a perfect remedy and will clean the trees of the creatures. It should be applied as soon as they make their appearance and not after they have skeletonized the leaves so that the tree looks brown.

THE EARLY VICTOR GRAPE.

George W. Campbell, of Ohio, in a paper presented at the last meeting of the Mississippi Valley Horticultural Society, says of this grape that it has stood all tests admirably; that he has had it in bearing for three years and finds it one of the most reliable grapes he has, either new or old; that it is healthy in fruit, vine and foliage, productive, pleasant-flavored, without foxiness, and really good; that its color is black, its size about that of the Clinton, and that it ripens early, just about the same time as Moore's Early.

On the grounds of your editor this grape ripened this season with Champion, Moore's Early and Jessica. This is the first time the vines have fruited here, having only been planted a year ago last April. The clusters and berries closely resemble those of the Clinton. There is more firmness to the pulp than in the Clinton, yet the flavor is sweeter and more pleasant than that

variety usually is, though we have eaten the Clinton when in agreeableness it surpassed most of our grapes. We think that the Early Victor will prove a valuable amateur variety where early ripening and agreeable flavor are more important than size. It seems also to be a very healthy and hardy vine, and immensely productive.

HYDRANGEA PANICULATA GRANDIFLORA.

Professor Budd, of the Iowa Agricultural College, writing to the *Prairie Farmer*, says that this grand shrub stands at the head of the list of autumn flowering shrubs. Its numerous panicles of pure white flowers rival those of the Snowball, and hold their beauty and perfection much longer. If it has proved itself hardy in Iowa it will certainly endure our Ontario climate even far to the northward. This beautiful shrub was widely disseminated by the Fruit Growers' Association, and those members who have planted it would confer a favor upon their neighbors and others if they would write to the CANADIAN HORTICULTURIST and tell us whether it proved to be hardy with them.

REVISED FRUIT NOMENCLATURE.

As a beginning to simplify and condense the names of fruits as much as possible, according to the suggestion of President Marshal P. Wilder, the American Pomological Society has in its latest catalogue made the following changes in the names of small fruits:

STRAWBERRIES.

New Name.	*Old Name.*
Cumberland	Cumberland Triumph.
Hovey	Hovey's Seedling.
Miner	Miner's Great Prolific.
Monarch	Monarch of the West.
Neunan	Neunan's Prolific.
Wilder	President Wilder.
Wilson	Wilson's Albany.

RASPBERRIES.

New Name.	*Old Name.*
Fontenay	Belle de Fontenay.
Kenevett	Kenevett's Giant.
Orange	Brinckle's Orange.
Palluau	Belle de Palluau.

CURRANTS.

Angers	Fertile d'Angers.
Knight's Red	Knight's Large Red.
Palluau	Fertile de Palluau.
Versaillaise	La Versaillaise.

GOOSEBERRIES.

Smith	Smith's Improved.

QUESTION DRAWER.

SIR,—Being a subscriber to your valuable production, I am vastly interested and instructed thereby; but, if not trespassing, would like to ask the following questions:—1st. What may be the cause of the young fruit withering and dying off my Early Scallop Squash and Hercules Club Gourd, being well watered? 2nd. What is the best method to propagate George IV. Climbing Rose and low bush roses, I having failed different ways?

FANCY.

REPLY.—1st. It is impossible to say with certainty without an inspection of the plants; perhaps too much water. 2nd. You will be most likely to succeed by layering.

DEAR SIR,—I have a particular grape vine which I wish to propagate by cuttings. Please give me instructions as to the best mode of doing so in the October number of the *Horticulturist*, and oblige,

Yours truly, W. KAY.

Goderich, Sept. 2, 1884.

REPLY.—The propagation of grape vines from cuttings is as simple as that of currants. When the growing season is over, the ripened wood is taken from

the vine and cut into lengths of two or three buds, and these cuttings are set in the ground with the uppermost bud just above the surface. In our climate it is better to take the cuttings before midwinter, and keep them in moist sand or sawdust until time for planting in the spring.

———

Can any of your correspondents favor me with information respecting the shipping of apples to England, freight charges, reliable merchants in Toronto or Liverpool to ship them to, and the average price for carefully packed Golden Russets and Ribston Pippins? Any information will much oblige.

Mrs. H. C. Gwyn,
Staplehurst, Dundas.

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To the Editor of the Canadian Horticulturist.

Sir,—I would be much obliged if you would answer the following questions if you can:—1st. Is the tree you offer as prize to members, under the name of "Canada" Baldwin the same as the Baldwin named in the Nurseries Catalogue, under the name of Baldwin? Description:—Winter; large, brown red, juicy and rich; very productive; one of the best winter apples; January to April. If not can you tell me the difference?

2nd. Can you send a different tree than this to any who do not wish the Canada Baldwin, say the Wealthy, or the one named below, "Stump?"

3rd. Do you know of an apple called the "Stump," and is it any good? A gentleman near here obtained one or two from a person in the United States, under that name, and they are doing well as young trees; about four years planted.

Pears do well here on my land when they live. They are apt to die from blight the first year, or to be injured by cracking of bark in stem. Bartlett, &c., Flemish Beauty, &c., and Winter, do not know. Am about to try A. D'Ete, Bartlett, C. Favorite, Duchess D'A., Louise De Jersey, Josephine De Malines, Jaminette, Toronto Belle, and Pound or St. Germain. Will let you know the result.

I see some one says cherries cannot be grown here. Well, I have none myself, as I only planted one and it got destroyed accidentally; but I have seen good cherries grown around here. One I can see from where I write, a young tree, bore a few last year and the year before; only four years old. Plums will not grow on the land where these cherries grow. Ground, a clay; rather wet spring and fall. I have had little or no fruit yet. From apples, young trees four years planted, I had three Duchess of Oldenburg this year, with about fifty apples on among them, but they had no chance to show themselves, as they were either blown off or taken. Four of other kinds had a small number of apples on that shared the same fate. They were very much like Duchess of Oldenburgs but smaller. I could not expect much as the trees only cost six cents each in the nursery, and last spring some one left my gate open and cattle got in and nearly destroyed a large number, quite finishing five.

Yours, &c.,
J. S.

Owen Sound, Aug. 28, 1884.

———

Reply.—1st. The Canada Baldwin is not the same as the Baldwin. It is a native Canadian.

2nd. You can choose any one of the several articles offered by the Association.

3rd. There is an apple known as the "Stump." Charles Downing says that the fruit is medium or below in size, quality good to very good, ripe in September and October.

CORRESPONDENCE.

REPORT ON MOORE'S EARLY GRAPE.

Mr. Secretary,—I have much pleasure in reporting on the Moore's Early Grape, which was distributed by the Fruit Growers' Association in 1881. It fruited for the first time this year, and is within a day or two as early as the Champion. The berry is much larger than that variety, in fact larger than the Concord. Its flavor and general appearance is quite superior to the Champion in every respect, and will sell better in the market, even to parties who do not know the doubtful qualities of its rival. I consider the Fruit Growers' Association of Ontario have done a wise and beneficial thing to the people of this Province in disseminating this plant, and I, for one, would tender my sincere thanks for the boon conferred.

P. E. Bucke.

Ottawa.

RIGHT TO THE WATER.

To the Editor of the Canadian Horticulturist.

Dear Sir.—Regarding the questions asked by Mr. Aylesworth, page 198, in the September number, as to the right to use the water of a stream for the purposes of irrigation, it appears that he may do so so long as he does not unreasonably diminish the quantity of the water. I quote from a legal writer on this point, which will give him an idea of how the law is at present :—

"Each riparian proprietor has a right to the ordinary use of the water flowing past or through his land, for the purpose of supplying his natural wants, including the use of the water for his domestic purposes, and for his stock. He has also the right to use it for any other purpose, as for irrigation or manufactures; but this right to the extraordinary use of the water is inferior to the right to its ordinary use; and if the water of the stream is barely sufficient to answer the natural wants of the different proprietors, none of them can use the water for such extraordinary purpose as irrigation."

"The right to such extraordinary use of flowing water is common to all the riparian proprietors. It is not an absolute and exclusive right to all the water flowing past their lands, but it is a right to the flow and enjoyment of the stream, subject to a similar right in all the proprietors, their privileges being in all respects equal."

The use of the stream for this purpose must be reasonable, and not materially affect the application of the water by the other proprietors, and each proprietor's right depends upon the circumstances of the case.

Yours, &c., Lex.

Toronto, Sept. 9, 1884.

A WORD ABOUT ROSES.

Many are fond of roses, and many more ought to be; many, also, have been so disappointed in their best efforts to grow this beautiful flower to their satisfaction that they have given up the job, some in despair, others in disgust.

One of the chief difficulties in the way, I am satisfied, is the improper selection of varieties. It is well known that some varieties do well, even under adverse circumstances, while under the most skilful care others do not give satisfaction.

Six years ago I purchased and set out a dozen Hybrid Perpetuals. I lost a few the first summer; but I have yet La France (a hydrid Tea) usually classed among the Perpetuals, Charles Lefebvre, Marie Baumann, Ferdinand de Lesseps, Mrs. Elliott, Comtesse Cecile de Chabrillant, Miss Hassard, and Alfred Colomb, all of which have proved hardy, without the slightest protection, and have been almost constant bloomers from early

July till late in the fall; the soil pretty heavy and only moderately rich. I trenched it two feet deep and made it very rich last fall, and expect much better results than I have had. I have also added about fifty new varieties to my collection, most of which are doing finely so far, and of which I hope to give you an account later on. Meantime let me say to intending rose-growers, make your soil deep (2 feet), and rich (one-half well rotted manure), and drain perfectly if at all inclined to be wet; mulch well with manure every fall; keep the surface of the soil loose at all times, and with such roses as I have named above you will have a fine show. ROSE.

FALL TRANSPLANTING.

The question is often asked of gardeners, nurserymen and others, which is the better season for transplanting trees, fall or spring? And taking into consideration the treatment which trees usually receive at the hands of those who plant them, or for whom they are planted, when asked that question we have usually replied that in our Canadian climate the spring is the better season for transplanting. Yet if our planters could be induced to take a little more pains in this matter of transplanting, and properly care for their trees in autumn, so that they would pass the winter without exposure to fierce frost-laden winds, the trees that are taken up in the fall and thus cared for would be more sure to grow, and to make a more vigorous growth than those that are just taken up in the spring. True, strictly speaking, this is not what is usually understood by transplanting. In our climate it is an impossibility to plant trees in an orchard or lawn where they are permanently to remain without the risk of their being exposed to the sweep of frosty winds, hence in order to protect them from this exposure it is necessary to plant them out temporarily in some place where they will be or can be thus sheltered.

The objection that is urged against this proceeding is the extra trouble involved. Yes, there is some trouble, perhaps more trouble than in spring planting, but what if the gain be full compensation for the trouble; we never achieve great success in any undertaking without proportionate painstaking. And, after all, the amount of *extra labor* in caring for the trees in the fall *is not* so very great. We select some place that is well drained, and also sheltered from the prevailing winter winds by buildings, or evergreen trees, or the conformation of the ground. Here we plant our trees, say a hundred in number, as thickly as they can stand without interlacing of the roots, and as deep in the soil as can be without getting below the summer-warmed earth, and are as careful to have the soil in contact with the roots, and every interstice filled as if the trees were to remain there forever. Here the roots that have been cut in taking up the trees will callous; and when the weather and ground have become settled in the spring, and we are ready to set the trees in their permanent positions, we take them up, a few at a time, and plant them where they will be ready to push into growth when the first warm weather starts the swelling buds.

If, on the other hand, the planter waits to have his trees arrive in the spring, it may be that when the soil and weather in his locality are just suited for the operation of planting, the nurseryman from whom he is to receive them is barely able to get a spade into the ground and to commence taking up his trees; after which they must be packed, transported to destination, and when received be heeled-in in order to keep them from drying and dying.

And this matter of heeling-in, unless performed with nearly as much care as when done in the fall, as above described, might almost as well not be done at all. Planters do not seem to appreciate the importance of careful heeling-in, and it is by reason of the want of care just here that many trees fail to grow, fail even to put forth at all, and the unlucky nurseryman who supplied the trees is blamed for sending dead trees. The truth is that the trees dried up because the soil was not in close contact with the roots when in the trenches. Meanwhile the season has been advancing, and by the time the trees are permanently planted the spring rains are over, the weather has become warm, not to say hot, the trees are suddenly forced into full leaf before the roots have been able to throw out sufficient rootlets to supply the requisite amount of moisture from the soil, and the trees suffer less or more in consequence, according as the summer may eventually prove dry and hot, or moist and cool. On the other hand, those that were procured in the fall, and set out permanently as early as the season would admit, put forth their leaves slowly, the roots are given ample time to take hold of the soil, and thus enabled to supply the leaves with moisture as fast as required, so that the trees grow without check.

Though the reasons in favour of taking up trees in the fall and treating them in the manner indicated are as cogent, and more so than has been stated, it is perhaps well that those who dislike to take much pains to do well what they attempt to do, will not hastily adopt these suggestions; for unless the fall heeling-in is carefully done, unless a well drained spot is selected, and after the heeling-in or temporary planting is completed, the ground be left in such shape as to keep excess of water away, unless care be taken that no field-mouse harbors are near, and unless the trees be well sheltered from the fierce winter winds, the trees might better be left in the nursery, and run all the risks, and undergo all the comparative disadvantages of spring planting. But there may be some who are willing to take the requisite pains to secure the resultant advantages; it is a great gratification to those who endeavor to impart to others the results of years of observation and experience to believe that there are even a few who will be profited. For these few the foregoing has been written. W.

"EXAMPLES OF EVERGREEN GROWING."

Copied from a Report made to Mr. Phipps, Chief Forester for Ontario.

You will now allow me to give you a few very encouraging examples of evergreen growing that have been made in this section, and of the beneficial results experienced. A few days ago I and my esteemed "better-half" went over to Mr. James Bissel's pretty place, being about a half mile north of the village of Thedford, on the fourth concession of Bosanquet, and a station on the G. T. R. On a very showy place beside the public road, and about ten rods from it on the bank of a deep ravine Mr. Bissel placed his dwelling and home gardens. On the north and west sides of the home and garden spot he planted a belt of Canadian white pine (*Pinus strobus*), on the 6th of May, 1876, or eight years ago. He went to the adjacent pine openings and took up with the best of care a quantity of fine young thrifty trees, about six feet in height, and carefully and as quickly as possible transplanted them around his lot on the sides indicated, in one continuous row about six feet apart. It was a grand success, and the trees grew without much diffi-

culty, and have since made a fine, strong progressive growth, in height and dimensions perfectly satisfactory, the spread at the bottom being about eight or ten feet in diameter, and the height twelve or fifteen feet, with a thickness of bole at bottom of six inches. Mr. B. told us that in winter time his family experienced quite a sensible difference between the inside and the outside of this belt, and that the temperature and the fierceness of the winds did not appear within several degrees the same on the inside as upon the outside, where he had to go if he wished to ascertain the full power of the blast that was raging without. On the land on the inside of this belt and surrounding the home they grew fruits such as apples, peaches, grapes, &c., with vegetables and flowers, with tolerable and encouraging success, and enjoyed a very pleasant and comfortable home life with his family. But

THE BEST EXAMPLE

of this kind of tree planting, and a model of the kind I wish to get at, is furnished by Mr. R. Thomas, on his place a little further north of Mr. Bissel's. Mr. T. is said to have come originally from Wales, with a good practical knowledge of arboriculture and horticulture from his youth, and bought his lot of fifty acres, with some improvements upon it, some fourteen years ago. He told us in conversation that at that time they found it exceedingly difficult in times of winter storms to stand out of doors to chop wood or to do any outside domestic work. That this state of things suggested to him the idea of planting a good belt of pine around his home, to include also his garden and orchard. He consequently thirteen years ago set to work to plant young native white pine trees on the north side thirty-five rods, and on the east, or front of the lot, and west side, twenty rods each, making a total of seventy-five rods. On the following year he planted also the south side, being so well pleased with the previous year's work, thus making a total surrounding of his home ground, and including nearly four acres. They went for the trees to the open pine slashings, and took up nice young branching forest seedlings, about six or seven feet in height from open spaces, and having good roots, and as much sod as possible upon them, and still adhering to them, and as quickly as possible planted them carefully in their places, most of them twelve or fifteen feet apart, and others only about six feet apart. They grew with remarkable readiness and beauty, scarcely five per cent. of them dying, and these were uniformly filled-in the next spring. On approaching this plantation to-day it is a most conspicuously attractive spot, and at all times inviting to the gaze of the traveller. Situated as it is by the side of the public highway, on an eminence, it is seen for long distances; its long and beautiful branches, with their wealth of refreshing green, gently waving in the summer breezes, formed a scene we loved to look upon. From what we saw we could readily imagine the kind of protection this belt would afford from any direction against winter storms and piercing winds. We found some of the trees to be eight or ten inches through at the bottom, and regularly and thickly branched their whole length, fifteen or twenty feet in height, making a regular, strong and progressive growth of about two feet per annum. On going into the enclosure it seemed as though we were in an amphitheatre of beauteous proportions, with those charming pine branches gently waving in the winds on all sides, as if in perpetual and ceaseless motion. Within, besides the home, there was the vegetable gardens

and a large plantation of apple and peach trees that had already reached goodly proportions, although yet quite young. On the apple trees the branches were hanging heavily loaded to the ground with a regular, clean and very promising crop of fruit. The trees looked better and healthier, with better leaves and cleaner and better fruit, and more of it, than the generality of the neighborhood. Although this season there is not many peaches on the peach trees, the gentleman told us that they had in other years raised many very heavy crops. On the whole this was

THE BEST THING OF THE KIND

we had ever seen, and the beau ideal of what we had often tried to picture to ourselves in our frequent communications. After a little more questioning, Mr. Thomas said that now he could stand to cut wood in a storm with his coat off and be comfortable, and that he considered it worth to his farm five hundred dollars, nor would he like to sell it at that if not to be replaced. Another point that struck us with a gread deal of convincing force while admiring this belt was

THE NATIVE BEAUTY

of our admirable Canadian white pine as a tree. We had often attempted to contrast this pine with the imported Austrian and Scotch pines, and hardly being able to sustain the comparison. But this plantation completely turned us over in our judgment and we will now cheerfully vote for the native Canadian born on our hills and towering in our fertile plains. Is not this as it should be and agreeable to our cherished motto, "Canada First?"

The points of excellence seem to us to be—

1. A beautiful clear refreshing green color of leaf, delightful to look upon.

2. Long swinging or swaying slender branches, constantly in motion in the summer breeze. This contrasts finely with the stiffness of the other two pines.

3. A regularity from bottom to top of branches, decreasing in length but with a dense fulness of branch and leaf, giving a deep fulness to each individual tree without any breaks in it, and

4th. Nationality. It in every case and in every place reminds you at once and forever of our beloved Canada.

These four points we feel to be valuable and argumentative points of comparison, and they have already succeeded in establishing in us a love for the

CANADA PINE.

A short distance further to the north of these plantations, and on the same line of road, there is one of the most admirable blocks of many acres of natural growth of white pine from seedlings on open pine choppings that is to be met with in great distances. About 25 or 30 years ago the large, noble trees from this pinery were removed and the land left merely fenced and protected from the inroads of cattle for a few years is now densely covered with as handsome growth of young and promising pine as could possibly be desired. Their beautiful deep green and long slender branches on all outsides and open spaces are very attractive, and the traveller passing them invariably stops to admire their beauty and wonder at their rapid and astonishing growth. I may suppose there may be 25 or 30 acres of this kind of plantation in the block, and the trees have now reached a height of 20 to 25 ft., with a good bulky thickness of trunk. This pine in a few years more will afford to the people much value in evergreen branches for shades, coverings and decoration, and also in young and valuable timber for many useful and indispensable purposes. In expense it has really cost its owners.

nothing but the taxes on the soil, as it is quite possible that the crop will pay all demands on this line with something to boot.

ANOTHER POINT.

Mr. Bissel mentioned a point in conversation that is of special interest to them living as they are just south of the shores of the great and majestic Lake Huron. They were formerly very much protected from cold winds coming over the lake from the north and sweeping with great force over this whole region during the winter and even spring months by a dense belt of Norway pine that was found growing on the sand hills in a continuous line parallel with the shore and reaching for many miles. This mass of pine raised a most effectual barrier to the height of about 150 feet above the water to those cold and destructive winds. This had the effect of greatly protecting much of the country that lay many miles to the south of it, including a fine agricultural belt of many thousands of acres in the counties of Lambton and Middlesex. This whole country and belts of timber were in the possession of "The Canada Company," being a company of English land owners, and they through their agents saw fit in their wisdom to give permission to have the whole of this timber sold and removed in very recklessness. Now, at this present time these hills are seen in the distance to be bare mountains of sand no longer covered with their usual dark and dense mass of green, and the wind barrier is in consequence lowered fully 50 feet. The effects of this removal are now being felt by the people of this entire region of country in the increasing cold of winter, in the greater severity of their wind storms visiting them, and in the frequency and severity of the destructive and much dreaded spring frosts late in the season. Surely there is not always wisdom in great corporations, much less if those corporations are foreigners and unacquainted with the conditions and reason of things. This instance most forcibly opens to us the absolute need existing in the most of our locations, even thus early in our history, for self-protection against the increasing force of cold and wind storms by judiciously planting trees around our homes, our orchards and our fields. The wisdom of depending upon others is not always a safe wisdom.

Yours, &c., B. GOTT.

Arkona Nurseries, Aug. 30, 1884.

REPORT ON FRUIT-GROWING AT KEMPTVILLE, COUNTY OF GRENVILLE.

By P. E. BUCKE, Vice-President Fruit-Growers' Association of Ontario.

Hearing of quite an extensive orchard for this part of Ontario near the town of Kemptville, 30 miles south of Ottawa, I proceeded on the 13th June on a tour of inspection. Kemptville is situate on the St. Lawrence & Ottawa Railway, and is half-way to Prescott, the latter town being on the main line of the Grand Trunk. Leaving Ottawa by the 1.30 p.m. train I reached Kemptville at 3 p.m., and was met at the station by the proprietor of the orchard, John Conn, Esq., who kindly drove me to his place, which is one mile south of the town and two miles from the station. A branch of the Rideau river runs through his farm, cutting off 12 acres of the south end; it is on this portion of the estate the apple trees are situated. A close inspection of the soil showed that it was principally composed of a sandy loam running into clay, with a gravelly subsoil, giving good natural drainage. A buckthorn hedge is planted along the west side of the plot to give protection, but is not yet sufficiently grown to produce that effect. Transcendant crabs have been

set 10 feet apart inside the hedge with the same view, but these have since been budded with the Wealthy apple. These buds were set in 1883, and at the time of my visit had made a growth of from four to six inches. The fruit trees were all in excellent health, with the exception of a few Wealthies and Duchess on the lower part of the orchard towards the river where the gravel runs into stiff clay and the ground is lower, but the percentage of failure was so small that it is scarcely worth mentioning, except to point out that to be certain of success it is necessary to plant on high dry gravelly soil. I do not think any system of artificial drainage, however elaborate, would take the place of a deep gravel bed upon which to cultivate apples in the colder parts of Ontario with success. The land on which this orchard is situated slopes to the north and west. The trees cultivated and bearing on this 12 acres of orchard are :—

Summer.—Red Astracan, Tetofsky.

Autumn.—Alexander, Duchess of Oldenburgh, St. Lawrence, Sweet Bough, Fameuse, Peach.

Early Winter.—Wealthy, Haas, Mackintosh Red.

Late Winter.—American Golden Russet, Pewaukee, Pomme Grise, Walbridge, Talman Sweet, and an apple called the Gideon, making a total of 17 varieties. To these are added two seedlings, said to be of good quaity, and named Conns No. 2 and No. 3. There are also a large number of crabs, but these, except the Whitney, which can hardly be put in that class of fruit, are being rapidly worked over with the different varieties mentioned, chiefly with the Wealthy and Gideon. I may mention that this latter apple was first introduced to notice as an ironclad by Peter M. Gideon, of the Excelsior Nurseries, Minnesota, who is also the originator of the Wealthy. Mr. Gideon pronounces the apple called after him, "the best apple he ever saw, and the tree as hardy as an oak." Mr. Conn is making the propagation of this tree and the Wealthy a specialty, but is unable to grow them sufficiently fast to keep pace with the demand for them. The apple called the Moscow, Mr. Tuttle specially imported from Russia, obtaining it through one of the United States Consuls. I am in doubt if this apple is correctly named, as Mr. Gibb in his admirable reports on Russian fruits, does not mention one under that name. The tree is very hardy on Mr. Conn's grounds, and it is a fine grower. Mr. C. went into the orchard business without much previous knowledge of horticulture, having spent the earlier part of his life as a teacher of youth, and has consequently had some decided failures, among these was the Grimes Golden, of which variety he procured 100 trees, but has none left, all having died on his hands.

His oldest trees were set ten years ago, and are healthy in every particular. The borer is quite unknown to him; he has no twig blight, the only insect observed was the bark-louse (*Mytilaspis pomorum*), but these were in quite insignificant numbers.

Mr. Conn also carries on a small nursery business. He is propagating only such varieties as he finds hardy with himself; he multiplies the trees by root-grafting, which operation is performed during the winter months, the scions and roots being secured in the autumn and packed away in the cellar. They are whip-grafted, as opportunity occurs, re-packed and put away for spring planting. For the last few years he has set out between 8,000 and 10,000 grafts annually. He sells the trees from two to four years old, the purchaser calling at the orchard and taking them away. This spring he sold

out all his stock early and could have disposed of more if he had had a greater number of trees.

Mr. Conn is making an addition to his fruit farm by adding an acre of grapes; these he is growing on trellises between the apple trees. The whole orchard is beautifully clean; the cultivator is kept running very frequently during the summer months. He has also upwards of an acre devoted to gooseberries and currants. The varieties grown of the former are Houghton, Downing, Smith's Improved and an English kind, name not known. The berry is half as large again as Smith's. The gooseberry crop, which, as a rule, has set poorly about here, on his grounds will be simply enormous. His currants, with the exception of Lee's Prolific and White Grape, are all red, the varieties grown are the Victoria and London Red. He is getting rid of the common red and cherry varieties as not affording such good returns as the others. He has between one and two acres of strawberries; these are also planted among the smaller and younger orchard trees. One lot is too old for a crop, and the other was planted this spring, so that his strawberry prospects are not very encouraging. I advised his putting in some Cuthbert raspberries so as to continue his small fruit season until his early apples were fit to gather.

On a gravelly knoll just outside of Kemptville, I observed some apple trees of great age, and on enquiry found they were full-grown trees when the present oldest inhabitant reached the then straggling village. I judge from this they are from 50 to 60 years old; they are now fast declining, and I am glad to be able to put on record that they still exist, as it is a proof of the longevity of the apple in the locality. These trees are seedlings, but the fruit grown on them is said to be of fair quality.

Mr. Conn's excellent example as a fruit-grower is being followed by the people around him, as many of the farms along the road bear witness by the apple trees planted upon them. He is also a member of the Fruit Grower's Association, which I trust he will be able to extend next spring in his vicinity.

After spending a very pleasant day at the hospitable abode of Mr. and Mrs. Conn, who were surrounded by four fine boys, and inspecting the beautiful rolling country dotted here and there with fine brick and stone farm-houses, as far as the town of Oxford Mills, I returned to Ottawa well pleased with my visit and the entertainment accorded me.

EXPERIENCE IN SHIPPING APPLES TO NOVA SCOTIA.

My Dear Sir,—Noticing in *The Horticulturist* for September, in a letter from Mr. Charles E. Brown, of Yarmouth, Nova Scotia, an unfavorable criticism respecting my shipment of apples to that market last year, I thought perhaps it would be wise to give some account of the same for the benefit of others.

In the first place, it is a question whether it will ever be an object to export apples in any quantity from Ontario to Nova Scotia, because good apples are grown in such abundance in Annapolis and in other parts that large quantities are frequently exported. Therefore, nothing but very superior stock would present any advantage to buyers there. Then the distance is so great that only the very best packing, such as is needed for shipping to Liverpool, will answer, and the expense per bbl. of carriage is not much less, being 90c. per bbl. on a carload from Grimsby to Yarmouth.

Now, if it is a question whether it

will pay to ship apples to Nova Scotia under the most favorable circumstances, what may be expected where one attempts it in such a season as that of 1883, when Ontario apples were so far below the average in quality, and yet, poor as they were, valued at from $3 to $4 per bbl. in our own home markets?

Well, I tried it that season, and shipped a carload to Yarmouth consisting chiefly of Greenings, Baldwins, King, Spy, Roxbury and Golden Russet, Ribston and Cranberry Pippin. In addition there were quite a few bbls. of inferior kinds, because I could not readily buy enough to fill the car without them.

Now, while the inferior stock brought deservedly severe criticism, as samples of our far-famed Ontario apples, the first-class kinds were highly satisfactory.

Messrs. P. D. Kinney & Co., the consignees, wrote: "This lot of fruit, on the whole, is rather better than you led us to expect. Of course any examination cannot be thoroughly reliable unless the contents of the barrels are emptied out. But we are satisfied that they are honestly packed, and *well* packed, too, for after the journey of 900 miles they still retain their places in the barrels, every apple of them, except two barrels which had evidently got part of their heads knocked out by rough handling."

The apples were distributed in Yarmouth as samples of Ontario apples, and critical reports were asked for from the consumers in the month of April of the following spring. While some of these were very justly adverse, the majority were highly commendatory, showing that the strictly first-class ones gave complete satisfaction. Here, for exples, are a few quotations from the reports:—

Mr. A. Lawson, proprietor Yarmouth *Herald*, writes: "The three barrels of Ontario apples, viz., King, Spy, Ribston Pippin, which I purchased from you last fall, proved of very excellent quality and fine flavor, and gave my family and myself the utmost satisfaction."

Mr. R. S. Eakins writes: "Referring to the Ontario apples, I can only say that they were in quality and flavor, &c., the best I ever had. If you have some now send me one barrel."

Mr. W. E. Perry writes: "The barrel of apples. King of Tompkins Co., which I purchased from you last fall, proved entirely satisfactory in every particular. A most excellent eating and cooking apple."

Mr. G. E. Day, Baptist minister, says: "The Ontario apples purchased from you were sound and good; they possessed an excellent flavor, and were in every way highly satisfactory."

Mr. W. D. Lovitt writes: "The Ontario apples I bought from you in December last—Ribston Pippins and King of Tompkins Co.—were of the best quality and gave good satisfaction."

Mr. W. A. Chase writes: "Apples, viz., Ribstons, Greenings, Spys and Russets, highly satisfactory in quality, flavor and quantity in the barrel."

Mr. A. Smurn writes: "The Canadian Golden Russets bought from you last fall turned out of medium size, beautiful in form and color, of delicious flavor, and will keep perfectly sound and crisp till June. I want no better."

M. R. Bingay writes: "The Ontario apples received from you were first a barrel of large, red apples, very fine indeed, and very few spoiled ones. The Golden and other Russets were also very good, and the Greenings were just splendid."

Mr. H. A. Hood writes: "The Ontario apples have kept entirely free from rot, and have given good satisfaction. The Russets are a clean, well-preserved apple, but their flavor, I think, might be improved."

Mr. Chas. Allan writes: "The barrel of Ontario apples that I got from you gave entire satisfaction. They were called Cranberry, and have kept much longer than you guaranteed them. The flavor was excellent."

I may add that I have just received a letter from Messrs. Kinney & Co., in which they regret the unfavorable criticism above referred to, and ask if I can furnish them with another carload of Ontario apples this fall. Should I venture the experiment again it will no doubt furnish me with some further experience to publish next season through the valued columns of *The Horticulturist*.

I am, yours very truly,
LINUS WOOLVERTON.

THE NIAGARA GRAPE.

TO THE EDITOR CANADIAN HORTICULTURIST:

By same mail I send you a cluster of the Niagara Grape so that you may see what this vine is capable of producing under adverse circumstances.

You will no doubt remember that during the last few days of May a severe frost prevailed generally throughout Ontario. On the night of the 30th the thermometer registered 27.4° here, and in a place much less exposed to the bleak north-west wind than that where my vines were growing. This frost destroyed nearly every bud on my vines, and the few that were left were so much injured that nearly two weeks elapsed before they commenced to push again. The cluster I send—I have only a few hundred-weight of them—shows what the vine is capable of producing three months and fifteen days from the night of that frost.

As many of the readers of the *Canadian Horticulturist* will be glad to get reliable information respecting the suitability of the Niagara Grape to the peculiarities of the climate and soil of this Province, I shall be much pleased if you will tell them whether in your opinion, judging from the sample of the fruit now before you, and knowing the difficulties contended with during the past season, the Niagara grape-vine is suitable for cultivation throughout Ontario or not. Perhaps it may assist you in coming to a decision to know that the Champion, grown by many persons in this vicinity, is not nearly ripe yet. I think the Delaware is ripening about equal to the Niagara. Brighton, growing on the same trellis with Niagara, has less than one-half of its berries coloured. There are but few coloured berries to be seen in Concord yet. Moore's Early is a few days ahead of this variety; Salem, growing in a much more favorable locality, is several days behind it; Chippawa is nearer ripe than any other I have.

Yours truly, THOS. BEALL.
Lindsay, 15th Sept., 1884.

CHAPTER ON CHERRIES.

(Continued.)

Tradescant Black Heart.—This fine cherry follows the Black Tartarian, and ripens just as this variety is done. This is a most excellent cherry, equal to the Black Tartarian and commands as good a price. It is a European variety, grown in the States under the name of Elkhorn. The tree is a vigorous grower; fruit large, of deep black color. Stalk rather short, set in a pretty deep hollow; flesh very solid and firm; a good hard cherry for travelling, and a good market fruit wherever raised; in perfection the second and third week in July.

Black Eagle.—Ripens much about the same time as the above. It does not bear so large a crop; in fact it is only a moderate bearer. Fruit generally in pairs or singly, yet it is a remarkably good fruit; the flesh deep purple, tender, with rich, high flavored juice, and should be cultivated for family use.

Reine Hortense.—This fruit is of the Duke habit. The tree is a healthy and handsome grower, and a very desirable variety. The fruit is very large, of a bright, lively red, slightly marbled and mottled; a very beautiful fruit; as it

is a cooking cherry it is excellent for pies and preserves. The tree is only a moderate bearer, which scarcely recommends it as a cherry to cultivate for the market, although the fruit is not so very fine you can always get the highest price for it.

Napoleon Bigarreau.—This variety I have not got now. In former years I cultivated it, and both tree and fruit were remarkable for their beauty. The fruit is of the largest size; pretty, heart-shaped cherry, of pale yellow, with a fine marbled dark crimson cheek; flesh was very firm and hard, but of excellent flavor when ripe; is a good and constant bearer; ripens about the second week in July. For some years this tree was very profitable to me. Year after year it bore good crops. At last trouble overtook it; the whole crop began to rot before it was fit for the market, and there was no other remedy than to cut it down. Without this blemish it is one of the best cherry trees to grow.

Early Richmond.—This tree almost belies its name, for it is the latest cherry I grow; there is some ripe fruit on the tree now, 13th September. I cannot say for certain that it is the Early Richmond, although bought and labelled as such. It is a cherry of the Duke habit. Fruit about the size and color of the Governor Wood. The tree bears a very good crop, and it is very useful, for its lateness makes it a good market cherry when all other small fruits are done. As I do not know whether it is true to name I cannot recommend it for cultivation.

Governor Wood.—This is a good variety; of vigorous growth, forming a round and regular head; a handsome tree, and very productive; fruit is large, roundish heart-shaped, light yellow, marbled with red; flesh very tender, juicy, sweet, rich and delicious; very good to best; ripens beginning of July. It deserves a place in every good collection. Although I lost the entire crop from rot last year, this season it has come all right again.

Buttner's Yellow.—Is a heart-shaped cherry, raised by Buttner, of Halle, in Germany, and is one of the few cherries *entirely yellow.* Fruit is of medium size; skin pale yellow, not a particle of other color on it; looks a beautiful fruit, and is regarded in the market-place as a curiosity, and buyers say they will take a few home to show them to the folks. The tree is a fine grower, and the crop large, with a tendency to rot in some seasons. This season the whole crop came down good, yet there were all the elements for a rot in the tree, which were kept dormant in consequence of the dry, warm weather. I believe that the curculio is the chief cause of the rot in the cherry, and in another number of the *Horticulturist* I will give you my reasons for thinking so.

CULTIVATION.

In planting cherry trees they should be put in ground that is rich and mellow: when I say rich I do not mean made so by manure, for from my experience the use of stable manure to cherry is a great drawback to its growth; and if planted in good soil the trees will thrive well for years, if they are mulched round the trunk with well rotted stuff or decayed weeds. From the use of new stable manure I have found that it seriously affects the health of the tree. Any quantity of soap-suds is very good to dash against the trunk. In pruning, the cherry trees need very little, just cut out a crossing branch; and the pruning is best done during the summer, just after the fruit is picked, then leave the trees to form the next year's crop. I might mention that the crop is already formed before you begin to prune, so do not let some ignorant person who professes to know

how to prune go and cut away the next year's cherries.

GATHERING THE FRUIT.

Don't let any person go up the tree with heavy boots on, so that he injures the bark. More trees are killed this way than any other, for where the bark is broken away the tree generally rots; and they should always pick the fruit with the stalks attached. This is very important, for in point of value the buyers prefer them with the stalks on than the other way, even though they get less cherries with the stalks on than off. E. C. F.

SHAFFER'S COLOSSAL RASPBERRY.

Peoria Co., Ill., Aug. 13.

Ed'r Prairie Farmer :—Among the multiplicity of new and "best" varieties of small fruits which are annually advertised and sent out, it is a relief and gratification to find an occasional one of superior merit. I think we have such a variety in the Shaffer raspberry. Its characteristics are the following :

1st—It is a hybrid between the black cap and red species. 2d—The canes grow immensely large, and on this account should be clipped off while growing; first at 18 inches from the ground ; again, about July 10, at 2 to 2½ feet ; and again about August 10, at 3 to 3½ feet from the ground. 3d—It is *extremely hardy* — even hardier than Gregg or Cuthbert. 4th—It is an immense bearer, *far* surpassing any variety in cultivation in this respect. 5th —The canes root at the tips and it does not throw up suckers all over the ground like the red varieties. This is a strong point in its favor for planting in gardens for family supply. 6th—The flavor of the fruit, though not rich, is peculiarly agreeable for table use, and especially for pies, jams and jellies. It is more acid than either the red or black species, and is free from the rank "medicinal" flavor so common in reds, and the "buggy" flavor of the blacks. My family prefer it for table use, with sugar and cream, to any other variety. 7th —In size it surpasses any other variety, and can be picked at half or two thirds the cost of any other known to me. 8th —In color it is first a rather light red, turning quite dark purple when fully ripe. For market the berries should be picked when bright red ; they then cleave from the crown very well, but for family use they should be left until dark and ripe, when the flavor is delicious. 9th—As a shipping variety it is as good as the average, if picked when red, and then brings the highest market price. Shaffer's shipped 100 miles, sold in Peoria at from 2 to 3 cents per quart more than very fine Cuthberts grown near the city.

Although the color is not in its favor yet its superior size will secure its sale at the best prices. Plants of this variety are now pretty plentiful at the nurseries, and can be procured at low rates. The high prices which have prevailed for this, also for those best early blackcaps, the Souhegan and Tyler, have restricted their planting for home use.

The season of the Shaffer is rather late—extending the raspberry season well up to the blackberry season. I am now using Shaffer's splendid, large, fine berries from canes clipped in spring to within a foot of the ground, and there are still many green ones on the shoots from the shortened canes. It surpasses other varieties in this habit. The following has just come to hand : Chas. W. Garfield, Secretary of the Michigan State Horticultural Society, thus writes : "Shaffer's is the best market berry I have. Last year I sold a few for canning purposes to people of good sense, and this year they were in great demand at the price of the best reds. Without question it is the best canning berry we have. O. B. Galusha.

SOUHEGAN RASPBERRY.

A correspondent of the *Fruit Recorder*, residing in the State of Kansas, writes to that paper that the Souhegan Black Raspberry has done the best with him of any, being by far the most hardy and the best bearer. It is a pity that he does not say what other sorts he is growing, so that we might know whether it is a better bearer and more hardy sort than the kinds in general cultivation in this part of the world. Some Canadian cultivators fail to see any material difference between this variety and the Hopkins or the Tyler.

EARLY TOMATOES.

In the *American Farmer* is a letter from W. F. Massey in which he insists that age of plant is an important factor in the matter of early ripening of the tomato, and that the pruning away of the first top is valuable in hastening the crop, besides that at planting out time the tomato plants have two or three well-developed stems instead of one, and of course that much more for early fruit.

THE BRIGHTON GRAPE.

H. Hendricks writes to the *Rural New Yorker* :—"I have some very fine raisins from the Brighton grape. The grapes were well ripened and placed in a drawer in a warm room, in October last. I find that none have decayed, but the fruit has just dried and shriveled naturally, retaining much of the true raisin bloom. In flavor they are not quite so sweet as Malaga or sun-dried raisins, but they are raisins nevertheless. I, of course, had no idea of raisins when I put the grapes away. Next season I shall give the Brighton a fair chance in the sun, and see how far its raisin propensity may extend. It is unquestionably an excellent grape, and every one ought to have at least a few vines of it in his garden."

THE MANCHESTER STRAWBERRY.

A. M. Purdy says in the *Fruit Recorder*, of this strawberry : "As a late sort it is exceedingly valuable, and we shall plant of it largely."

DWARF OR STANDARD PEAR TREES FOR PROFIT.

P. T. Quinn writes to the *N. Y. Tribune* that if he were about to plant a pear orchard now, with an experience of twenty-five years in growing pears for profit, and could get dwarf pears for nothing, and were compelled to pay five hundred dollars a thousand for standards, he would not hesitate a moment in making the selection of standards. He considers one healthy standard pear tree at twelve years of age worth a dozen of dwarf pear trees of the same age.

PARIS GREEN vs. CURCULIO.

William Creed, writing to the *Fruit Recorder*, says that he applies Paris Green to his plum trees at the time the Curculio is depositing its eggs in the young plums in the following manner, and that he finds one application made at the right time, provided no rain follows immediately after, exterminates the crop of Curculios: He reduces some glucose to a weak syrup and puts a little of this, he does not say how much, into a common pail and mixes thoroughly with it two thirds of a teaspoonful of Paris Green. He thinks this helps to keep the Paris Green in suspension. He then fills the pail with water, stirs the glucose syrup mixture rapidly through the water, and with a garden syringe thoroughly sprays the plum trees until fruit and foliage are covered with the spray. It will help to keep the Paris Green in suspension if the water is frequently forced back into the pail from the syringe while spraying the trees.

MULCHING PLANTS WITH MOSS.

Peter Henderson says :—"This is a new practice we began in 1880. It consists in mixing the common moss of the swamps or woods with about one twentieth of its bulk of bone dust. This is placed to a thicknesss of an inch or two on the top of the pot. Plants so treated quickly show surprising health and vigor. It cannot be too highly recommended, whether for the amateur growing a few window plants, the gardener with his full appointed green-houses, or the florist who grows to sell—to one and all we advise it, as it not only lessens labour, saving a repotting of plants frequently for twelve months, but the vigor of growth and productiveness of flower and coloring of foliage are perfectly astonishing. The moss mulching process should only be done in summer. If used in winter there is danger of the plants getting too damp."

EARLY RASPBERRIES.

Samuel Miller, writing to the *Rural World*, says that the first ripe red raspberry was the Scarlet Gem, ripe June 11th, and bearing a fine crop of large, handsome, excellent berries. Crimson Beauty, and Stayman's Number 2 ripened five days later. He states that Crimson Beauty is perhaps the most valuable of the three, though there is very little difference, all are valuable.

Of the black raspberries, Centennial was the first ripe, Souhegan and Burns a few days later. All three, he says, are valuable; Centennial the largest, Souhegan the most acid, and Burns the smallest and sweetest.

He considers the Caroline to be certainly an acquisition, not quite as large nor quite as good as Brinckle, but near enough to make it valuable. His plants were loaded with fruit, which, he says, "is certainly fine." We have found this variety to be truly an enormous bearer, but we cannot call the flavor of the fruit sufficiently good to make it valuable.

PYRETHRUM FOR THE CABBAGE WORM.

A writer to the *Indiana Farmer* says that he destroyed all the worms on his cabbage by the use of Pyrethrum, or Persian insect powder. He put a common tablespoonful of the powder into a watering pot holding two gallons and a-half of water, upon this he poured boiling water sufficient to fill the watering pot, stirred it thoroughly and then left it to steep for a few hours. With this liquid he sprayed his cabbages twice a week as long as a live worm could be found, and reports that it was sure death to every worm that got a wetting.

SQUASH GROWING FOR MARKET.

The *N. Y. Times* publishes a communication from Henry Stewart, who seems to have made the growing of squashes a specialty. He advises selecting a moist, loamy field, where the moisture is long retained, plowing in a very heavy dressing of manure, afterwards manuring in the hill liberally, giving at the rate of forty pounds to the hill after having plowed in about sixteen tons to the acre. He conquers the striped bug and black-flea beetle by dusting the plants with white hellebore, and the squash bug and squash vine borer by spraying the vines with a kerosene emulsion and pouring it on to the stems so that it will run down into the soil. This emulsion he prepares by dissolving one pound of whale oil soap in one gallon of hot water, to which is added one pint of kerosene oil and the mixture well beaten into a smooth emulsion. The ends of the running vines are pinched off as soon as they begin to trespass on each other; this forces the

growth of lateral branches, which alone bear fruit. If this be neglected, he says, one will have splendid vines, but very little fruit; but when this is done seven tons to the acre is a very common yield.

THE INFLUENCE OF POLLEN.

The effect of pollen upon the fruit and seeds of plants is a subject that has frequently engaged the attention of both practical and scientific horticulturists during the past score or two of years. All admit that pollen is an important factor in the production of seed. Furthermore, if there is seed, there must be some other organ present to support it—a fruit-stalk; an envelope to enclose it, as in the apple, pear, cherry, and similar fruits, or something to rest upon as in the strawberry, raspberry, and blackberry. Consequently we must admit that the influence of the pollen does necessarily extend beyond what we term the fruit or even the seed. Quite recently this subject has come up anew, and interesting discussions have followed at several meetings of horticulturists as well as in the columns of various agricultural and horticultural journals. We find the same influence exists in melons, squashes, cucumbers, and similar fruits, and often to such an extent that a choice and high flavoured variety is almost ruined by being planted near an inferior one. A more striking and familar example of the influence of pollen is that of sweet corn fertilized by the pollen of field corn. If a yellow variety of field corn is planted near any variety of sweet corn, and both come into bloom at the same time, there will be yellow kernels interspersed among the grains of the sweet, and the flavour of these will be as distinct as their color. The influence of the pollen in this case, not only extends to size, color, texture, and flavour, but often still further, for the coloring matter will usually be seen in the cob. It will be the same with two white varieties, but the effect is more readily observed when one variety is either red or yellow.—A. S. Fuller, of N. J., *in American Agriculturist for September.*

HOW TO MAKE YOUR LAWN.

Where lawns are made by seeding, the work is commenced by turfing. Wherever there is a termination in the grass plat, not otherwise bounded, a strip of turf about a foot wide should be laid down for making a firm edge. Do not remove the soil quite as deep as the sod is thick, as some allowance should be made for compression in beating. When ready to sow the seed, the surface should be passed over with the rake and mellowed up a little on the top. It is a common error to use grass seed too sparingly. Use four or more bushels to the acre. Where it is known that any one sort does well, it is best to sow only that one kind. As a rule Red Top, Bent grass, or Blue grass, are generally preferred. Where it is thought best not to depend on one alone, then several kinds should be mixed. Some always sow a little White Clover with the grass seed, for the greenness it maintains in drouths, but wherever lawns are kept watered this should not be added. In sowing, the seed should be divided into two portions, half to be sown by passing over the land in one direction, and then, after lightly raking over the surface, sowing the remaining half cross-wise. Rake in the seed, or use a brush harrow, and after this let a thorough rolling be given.

As the grass starts up, and the weeds with it, the mower must be kept at work on the new lawn. The weed seed lying in the ground usually comes up quickly, and will prove annoying for a while, but if the grass was sown thickly enough, and the mowing and cutt-

ing out coarse growing weeds are attended to for the first season or two, the lawn will come out all right in the end. —E. A. Long, of N. Y., *in American Agriculturist for September.*

TREES WITH ATTRACTIVE FLOWERS.

Under this heading I propose to enumerate a few trees desirable on account of their flowers. In the selection of trees this characteristic is often overlooked, and some of the best flowering trees are but little esteemed. I name first the Virgilia lutea, which undoubtedly is the finest flowering tree we have. Its long white racemes of pure white flowers hang gracefully about the tree, and form a picture the admirable points of which it is difficult to describe. The Chinese Magnolias are so well known that it is not necessary to refer to them, except in a general way. The Judas tree may be associated with them in groups with fine results. The large double-flowering Cherry, white flowering Dogwood, double scarlet and double white Thorns, white Fringe, and the Lindens are all admirable trees, and merit prominent places in ornamental grounds. The double-flowering Horse Chestnut is justly admired for its elegant form and magnificent inflorescence. The absence of fruit, by which much litter is avoided, is an important argument in favor of its employment. The red flowering Horse Chestnut is surpassed by few ornamental trees. Koelreuteria paniculata, with its golden yellow flowers, and Catalpa syringæfolia, producing great clusters of white and purple flowers, cannot be too highly prized, as they blossom at a season when flowers are very scarce. The double-flowering Peaches, which flower immediately after the Prunus triloba and dwarf double-flowering Almond, are very desirable. One variety produces double rose flowers, another double white, and another double red. At the flowering season every branch of these trees is thickly studded with blooms, remarkable for size, beauty, and the length of time during which they remain fresh. The three are a trio of flowering trees which deserve to be extensively planted. The scarlet Maple yields a profusion of scarlet flowers early in spring before the leaves appear. It is very showy and ornamental.—W. C. Barry, Rochester, N. Y.

SOW NOW FOR SPRING FLOWERS.

While our gardens present a much greater variety than did those of a half century ago, there are some plants in which the old-time gardeners excelled. We do not see such beds of Pansies, or of Rocket Larkspurs, as were then the pride of the gardeners. Success with Pansies is mainly due to sowing the seed in autumn. If the seed is sown in spring, by the time the plants begin to bloom hot weather comes, and the flowers become fewer and smaller. In order to have flowers in spring, sow the seeds early this month. Make a spot of rich soil fine, and level the surface by pressing it with a board. Sow the seeds, sift a little soil over them, and press down firmly with the board. When the plants are an inch high, transplant them to the place where they are to flower. The plants are quite hardy, and all the winter protection they need is a little brush to keep the snow from pressing too heavily upon them. The Rocket Larkspurs are unlike the tall ones, annuals. A bed of them is as showy as one of Hyacinths. Sow in a well enriched bed this autumn, but leave them to flower where they were sown. The bed may be covered with brush during the winter, and if the plants are too much crowded in any part of the bed next spring, thin them by cutting out the surplus. They do not transplant satisfactorily.—*American Agriculturist for September.*

BOOKS, &c. RECEIVED.

VICK'S CATALOGUE OF HARDY BULBS, &c, for autumn of 1884. James Vick, Rochester, N.Y. Mailed free to all applicants.

ELLWANGER & BARRY'S supplementary list of Novelties and Specialties, also their Catalogue of BULBOUS FLOWER ROOTS for fall planting, 1884, and Descriptive Price Catalogue of SMALL FRUITS.

SEVEN HUNDRED ALBUM VERSES is the title of a little book of 128 pages, filled with a variety of selections in poetry and prose, for the convenience of those who being requested to write in an album are at a loss what to write. It is sent by mail, post-paid, in paper cover, for 15 cents, in cloth 30 cents, by J. S. Ogilvie & Co., 31 Rose Street, New York.

CYCLOPEDIA OF PRACTICAL FLORICULTURE.—We have received from Townsend MacCown, Publisher, 744 Broadway, New York, his prospectus of a work of 420 pages quarto, with the above title, which he promises for completeness and popular value shall surpass anything of the kind yet published. The price, in cloth, $5 00. Book sent to any address prepaid by the publisher.

CANADIAN BREEDER and Agricultural Review, is published weekly, corner Church and Front streets, Toronto, at $2 00 a year. The initial number just received is very handsomely printed on excellent paper, and filled with valuable matter pertaining to the stock and farming interests of Canada. We are pleased to note that it is not intended to fill this paper with trashy stories and conundrums, in order to make it attractive to children or to the weak intellects of those of larger growth, but to give its readers substantial value for their subscription in the reading matter furnished.

TRANSACTIONS OF THE MISSISSIPPI VALLEY HORTICULTURAL SOCIETY for the year 1884 have been received from Mr. W. H. Ragan, secretary, to whom our thanks are due for the opportunity of examining so valuable a contribution to our horticultural literature. The book is adorned with an excellent likeness of Dr. John A. Warder, that lover of nature and enthusiastic promoter of every enterprise that aimed to advance our knowledge in any department of rural life. The paper on profitable fruit-growing in Minnesota is worth, to those of our readers who reside in the parts of Ontario which has a similar climate, all that the whole book costs. We advise them to send two dollars to Secretary W. H. Ragan, Greencastle, Indiana, and secure a copy.

The Orillia *Packet* says :—"We are glad to learn that complaints of a failure of the apple crop in this district are by no means universal. Mr. A. T. Millichamp, Lake Shore, will have a good yield, some of his trees, indeed, being heavily laden, and we hear of others equally fortunate."

The Presidential campaign is begun in earnest, and our neighbors in the United States have plenty of excitement just now. The Philadelphia *Weekly Press* announces that the price is only 25 cents until after the November elections, and the *Daily Press* 50 cents per month.

RED RASPBERRIES IN HILLS. — The *Fruit Recorder* says :—"We have become satisfied that red raspberries should be grown so as to be worked both ways—allowing three to five stalks in the hill—owing to size and stockiness. We find when grown in hedge rows the berries are not so large and fine as those grown in hills, and are not so easily picked. Of course they can be planted quite close together—say, for instance, 4½ to 5 feet each way, and if nipped back when growing, they require no stakes. Grown thus in hills, and each year a small forkful of manure thrown against each hill, a plantation will last fifteen to twenty years, especially if the old wood is cut out every year."

MISCELLANEOUS.

MOORE'S EARLY GRAPE.—We are growing very fond of Moore's Early Grape. It is no better than Concord in quality; but it ripens up fully before any other of our grapes, and we eat it and enjoy it, because we have no better grapes to eat and enjoy. —*Rural New Yorker.*

ATLANTIC STRAWBERRY.—The readers of the *Canadian Horticulturist* were presented with a colored plate of this strawberry in the January number. The *Rural New Yorker* says of it:—"We can not say much in favour of this variety. It is moderately prolific, berries firm and of fair quality, medium to late."

THE TYLER RASPBERRY.—The Tyler, without any exception, is the most abundant bearer on our place, ripening early and holding out to the last. If we were confined to but *one* sort, it would be this. The different sorts are ripening together this year more than we ever knew them before. We are unable to account for it.—A. M. PURDY, *in Fruit Recorder.*

APHIDES OR PLANT LICE.—Prof. Glaser, of Germany, recommends the following for killing lice on plants:—Dissolve 2 ounces of soft soap in half-pint rain-water, make an infusion of 1½ oz. tobacco in half-pint water, mix together; add 2½ oz. fusil-oil, and half-pint of methylated spirit, and make up the mixture to a quart. Sprinkle the leaves of infected trees with it, and it will kill the lice without injuring the plants.

THE GREGG RASPBERRY.—If there is a black raspberry on earth superior to the Gregg, for large size, productiveness, lateness, and for the market stand or evaporating, we would like to see it, and would willingly give one thousand dollars for one thousand plants. Talk about the Ohio. As the saying is, "it can't hold a candle to it." We are drying them in our Williams evaporator and getting one pound from 2¾ to 2⅞ quarts of fruit.—A. M. PURDY, *in Fruit Recorder.*

NEW FLOWERING THORN.—A new hybrid thorn (*Crataegus Carrierei*). The first number of the *Revue Horticole* for March gives a beautifully and delicately executed plate of the above named charming addition to our hardy shrubberies, which is now being sent out by the well-known French nurseryman, M. Baltet, of Troyes. It was raised by M. E. A. Carriere, when head of the propagating department of the Paris Museum of Natural History, from a seed of Crataegus mexicana, and is said to be extremely hardy, the severe winter of 1879-80 having left it entirely uninjured. It is valuable for its handsome bunches of large white flowers with conspicuous red-tipped anthers, produced freely about the middle of May, for the bronzy copper red tints assumed by its foliage in autumn, and for its handsome and brilliantly colored berries resembling in color those of the common Arbutus, but of a somewhat brighter hue. All these points are clearly set forth in the plate, half of which was painted in spring and half in autumn.—*The Garden.*

A NEW CHERRY.—Mr. James Dougall, living in Ontario, Canada, has a new seedling cherry named The Dougall, in honor of the raiser. It is a seedling of the Early Purple Guigne, a variety well known to the fruit growers as an early and profitable cherry. The fruit of The Dougall is ripe about a week before that of its parent, and is larger and finer flavored. The tree is noted for its hardiness and vigor of growth, and as being a most abundant bearer. The specimens sent us show its great fruitfulness, and also the large size and vigor of its foliage. The fruit is of the darkest purple color, almost black, with a remarkably juicy flesh of great richness. We accidentally discovered a quality of the fruit for which the raiser makes no claim. It is a remarkable keeper. A number of loose cherries were, by chance, left in the box, and when discovered a week or more after their arrival, save a slight shrivelling of the skin, they were unchanged. There were no indications of decay. We hope the Dougall may retain the good qualities shown by the original tree. The "Windsor," another of Mr. Dougall's seedlings, has already received the attention of fruit growers. We are glad to see a renewed interest in the cherry, which of late years has been much neglected.—*American Agriculturist for September.*

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPP, CLARK & CO., COLBORNE STREET, TORONTO.

DEUTZIA CRENATA.

PAINTED FOR THE CANADIAN HORTICULTURIST.

THE

Canadian Horticulturist.

VOL. VII.] NOVEMBER, 1884. [No. 11.

THE DEUTZIAS.

These beautiful shrubs have been introduced from Japan. They belong to the natural order Philadelphaceæ, of which our common Syringa or Mock Orange is the type. They have been regarded by most botanists as generically distinct from the genus Philadelphus, and received their present generic name in honor of an amateur botanist of Amsterdam, who was also a sheriff, one J. Deütz; but some botanists think that they are not generically distinct, notably Mr. George W. Johnson, editor of the *Cottage Gardener*, who says, in his "Gardener's Dictionary," that he believes they are only different sections of the same genus, and that he expects that some of the species of each will yet cross with each other, and so prove the correctness of his view.

Deutzia scabra is the strongest grower of them all, rising to a height of from ten to twelve feet in rich soil, and with a corresponding breadth. The leaves are coarse and rough, being covered, on the underside especially, with silica, and in such abundance that the Japanese use them for polishing. These siliceous bodies form a very beautiful object under the microscope when viewed by reflective light. This species is a most profuse bloomer, yielding pure white flowers, which are borne on long spikes. If the old wood be cut away after flowering, and only the new growth allowed to remain, the shrub will be kept in much better shape and present at all times an ornamental appearance.

Deutzia crenata, flore pleno, is well represented by the colored plate which illumines this number. In habit of growth it strongly resembles the preceding, but is not quite so robust. The flowers are borne on graceful panicles of considerable length, are very double, pure white on the inner surface of the petals, but having the outer surface suffused with bright rose. This species also appears to much better advantage if the flowering shoots are pruned away after the season of bloom is past.

Deutzia gracilis has been so named from its very graceful style of growth. It is the smallest of all the species, and a general favorite. When covered with its pure white flowers it is a most charming object. It is frequently used by gardeners for early spring forcing in a cool greenhouse. Mr. F. J. Scott, in his "Suburban Home Grounds," says that he can remember no church deco-

ration so charming as the wreathing and bordering of the pulpit and altar of a chapel decorated almost exclusively with the pendant racemes of this species intermingled with green leaves. When well grown it will attain to the height of three feet, with nearly as great a breadth.

These are the species most commonly grown, and they are well worthy of a place in any selection of choice flowering shrubs. There is a white double flowering variety of *Deutzia crenata*, known as *D. crenata flore alba pleno*, which has not any pink or rose color upon the outerside of the petals. This variety is also very handsome, making a pleasing contrast when planted near its rose-tinted relative. Johnson's gardener's dictionary mentions a red flowered species under the name of *Deutzia sanguinea*, but we have never seen it, nor do we ever remember seeing the plant offered for sale in any nursery catalogue.

These Deutzias have a good reputation for hardiness, but we can not yet say how far to the north in Canada they can be successfully grown. Quite a number of the *D. crenata* were disseminated by the Fruit Growers' Association to its members last spring, and we hope that before long they will report through the *Canadian Horticulturist* whether they endure our climate in the sections that are colder than the county of Lincoln.

NEW ORLEANS EXHIBITION.

This promises to be one of the greatest Expositions that has yet been held. We give a description of the main building, with a cut showing the front and one side.

MAIN BUILDING.

The main building is the largest ever erected. It is 1,378 feet long by 905 feet wide, without courts, and has a continuous roof composed largely of glass so arranged as to afford an abundance of light without subjecting the interior to the direct rays of the sun. Within, the view is unobstructed. From one side or corner of the building to its opposite, the interior showing all the phases of industrial activity is seen. There are no partitions, and the lofty pillars, wide apart, supporting the roof structure, present no impediment to one's vision, but only serve to assist the eye in measuring the vast expanse. The interior is surrounded by wide and spacious galleries, twenty-three feet high, which are reached by twenty elevators having the most approved safety appliances, and by convenient stairways.

The machinery department occupies a space of 1,378 feet long by 300 feet wide, within the main building, and has an extension added in iron 350 feet long and 150 feet wide for heavy machinery, described under the heading of Factories and Mills. From the galleries overlooking more than two miles of shafting can be seen driving every known character of machinery.

Music Hall, with a seating capacity, in commodious chairs, for 11,000 people, a plat-

form capacity for 600 musicians, and a mammoth organ, built to order for the Exposition, occupies the centre of the interior.

The main building will contain general exhibits. It is situated about in the centre of the grounds.

QUESTION DRAWER.

FIELD MICE.

To the Editor of the Canadian Horticulturist.

Dear Sir,—Will tarred felt paper prevent the mice from girdling young fruit trees, or would it injure the trees any? Yours, very truly,

Subscriber.

Toronto, 25th Sept., 1884.

Reply.—We have never tried this paper for the purpose mentioned, but believe it would be effectual and would not injure the trees. If you try it, please report your experience.

WHITE THORN.

Dear Sir,—As I was out rambling through the woods yesterday, I came across a species of thorn entirely new to me. You will find a small branch enclosed. Please inform through *Horticulturist*, and oblige,

Yours, truly, T. A. Chapman.

Echo Heights, Baltimore, Ont.

We submitted the branch to one of our best Canadian botanists, and received the following

Reply.—The spines are longer and more slender, and the leaves slightly deeper cut than usual, but I have no doubt your specimen is a young shoot of *crataegus oxyacantha*. With neither flowers or fruit it is difficult to say with absolute certainty, but still I feel confident that it is as I say, a form of the above. Very truly yours,

T. T. M. Burgess.

London, Ontario.

CORRESPONDENCE.

ANNUAL MEETING

of the fruit growers' association of ontario.

This meeting was held in the town of Barrie, in the County of Simcoe. It was a new departure this holding of our meeting in any other place than that in which the Provincial Exhibition is being held. The founders of the Fruit Growers' Association thought to secure a larger attendance and a wider representation, and thereby to accomplish the greater good, by holding the annual meeting in connection with the Agricultural and Arts Exhibition. Experience, that greatest of teachers, has shown that hitherto the magnitude of the Provincial Exhibition has quite overshadowed everything else; that only one evening could be devoted to the objects of our Association, which barely gave time for the reading of reports, the President's annual address, and the election of officers. No time could be had for eliciting or imparting information, for the discussion of horticultural subjects, in short, for the furtherance of those objects for which the Association exists.

The meeting at Barrie was a great success. Representative men were present from all parts of the Province. A varied collection of fruits and flowers was exhibited, especially from the vicinity of Barrie, giving an opportunity of ascertaining what attention is being given there to the cultivation of these things, and with what measure of success. Two days were spent in very pleasant and profitable discussion of topics connected with horticulture and forestry. A short-hand reporter was present to take down the discussions and preserve the information thus obtained for dissemination through our annual report.

The election of officers was held in the forenoon of the second day, and resulted in the following choice :—

President. — Wm. Saunders, F.R.C.S., London.

Vice-President. — P. E. Bucke, Esq., Ottawa.

DIRECTORS.

Division No. 1.—John Croil, Aultsville.
" " 2.—A. A. Wright, Renfrew.
" " 3.—D. Nicol, Cataraqui.
" " 4.—P. C. Dempsey, Trenton.
" " 5.—Thos. Beall, Lindsay.
" " 6.—W. E. Wellington, Toronto.
" " 7.—Jas. Goldie, Guelph.
" " 8.—A. M. Smith, St. Catharines.
" " 9.—T. H. Parker, Woodstock.
" "10.—A. McD. Allan, Goderich.
" "11.—John Little, Fish Creek.
" "12.—Hugh Smith, Sarnia.
" "13.—Chas. Hickling, Barrie.

Auditors. { John Carnegie, Peterboro. / Chas. Drury, Crown Hill.

The newly-elected Board held a meeting immediately after the morning session and appointed D. W. Beadle, St. Catharines, Secretary-Treasurer.

In the evening of the last day the citizens of Barrie entertained the non-resident members at a sumptuous banquet, which gave an opportunity for social intercourse, that was greatly enjoyed. The Barrie Brass Band honored us with a serenade before the banquet was over, so that we left Barrie loaded with honors and carrying with us most grateful recollections of our visit.

A Non-Resident.

POULTRY HUMBUG.

To the Editor of the Canadian Horticulturist.

I was considerably amazed upon reading the September number of the *Canadian Horticulturist* to see that an old "grey beard" like you should have been taken in so badly by the communication of W. F., on pages 201-2. This poultry sharp, who enjoys several *aliases*, has been pretty well exposed during the past eighteen months, the *Rural New Yorker* especially being energetic in the good work of exposing the fraud. In western Ontario a great number of the weeklies have from time to time had occasion to call attention to this humbug, and it affords many here amusement that the discrimination of the editor of this magazine has not penetrated the confidential plausibility of J. Bain, *alias* Bave, *alias* W. G., &c.

A friend of mine who was induced to invest his money for the directions to make the incubator, after careful trial of it gives it as his verdict—HUMBUG.

Yours truly,

J. A. Morton.

Wingham, 27th September, 1884.

THE ACT TO PREVENT THE SPREADING OF NOXIOUS WEEDS.

To the Editor of the Canadian Horticulturist.

Sir,—Well, Mr. Editor, what are we going to do about it—this Noxious Weed Act of ours? Is it to be rigorously enforced throughout the length and breadth of the land, or, like some other good, but only permissive, laws which we have on our statute book, is it to be allowed to become only a legal scarecrow or dead letter? As the law stands at present, every municipal council has power, on the petition of fifty or more ratepayers, to appoint an inspector, whose duty it shall be to enforce the Act; but in how many rural municipalities will you find fifty or more ratepayers possessing sufficient public spirit to petition the council to appoint an inspector to inspect themselves, or to have themselves fined five dollars and costs if they neglect to attend to the inspector's instructions. It ought to be the duty of the Government to appoint an inspector for every township, to pay his salary, and to receive all fines imposed for non-compliance with the requirements of the Act; and instead of the inspector summoning the offender before a local magistrate, he

should report all such offenders to the County Crown Attorney, whose duty it should be to prosecute the offenders before the County Judge. It is only by the adoption of some such severe measure as this that we can ever hope to contend successfully against those noxious weeds which threaten to annex the province within a few years. As regards these troublesome pests, I can do no better than to quote some extracts from "Colin Clout's Diary," by Geo. A. Allen.

I have had the extracts copied by one of my grand-daughters, who has been here on a visit for some months. She has a habit in writing of placing the words very far apart, but I do not suppose your compositors or proof-readers will find fault with her on that account.

APPLES AND PEARS.

I have never had such a wretched show of small size apples and pears as I have had this year. A kind of blight seems to have passed over the apple trees. The blossoms set well at first, but many of the fruit spores, with their leaves and blossoms, withered away, and in some cases when the apple had become a fine size they dropped off, bringing the spores with them.

PLUMS.

My plums are pretty on the whole, though small; however, I have only lost one plum tree, a Lombard, grafted some years ago on a wild stock. Some of my neighbors have lost most of their plum trees. The summer rains were local, so that in some places the fruit, both apples and pears, was of a large size.

CRACKING AND SPOTTING.

Some years ago a St. Lawrence apple tree (dwarf) had almost every apple cracked; this year, on the same tree, not one. Two years ago, the only snow-apple tree I have (dwarf) was loaded with fruit, but nearly every apple badly spotted. Last year it bore very few, but they were good. This year the same tree is bearing moderately, and scarcely a spot on any of them. The Yellow Bellflowers seem rather more inclined to spot this year, though they usually do not. A kind of blight seems to have passed over the apple trees this year; the leaves assumed, when seen from a little distance, a kind of greyish tint, and the leaves are curling badly, especially near the ends of the branches, and the leaves begin to fall off unusually early.

SMALL FRUITS.

Of small fruits I have very few; some red and black currants and gooseberries; these last were stripped of their leaves by the caterpillars, but the wild raspberries were very abundant. I had one of the Russian mulberries last year; it did not come on very well; perhaps the soil was too heavy for it. It was cut down in the winter, but is coming on again this year. I had some more last spring and planted them in a drier, better drained place, one failed; the other is growing very well. They are said to stand the winter without protection; in Montana with protection. Either the soil must be too stiff a clay loam, or the climate too damp for them. I sent one to a friend in Cornwall, England, and he tells me it is growing very well. Some years ago I sent him some cuttings of the Concord grape. They grew well, but as yet show no signs of producing fruit.

GRAPES.

My grapes failed altogether to ripen last year. This year the cool weather in July, which was so favorable to the filling of the grain, was unfavorable to the grapes. The warm weather in August brought them on a little; I was in hopes they would ripen, but the cool, unsettled weather we have had since renders that very unlikely.

The unusually dry season was very unfavorable for fall ploughing, but recent rains have improved the prospect in that respect. As for our leading industrial and agricultural exhibitions, they are getting to be very little better than so many circuses. The worst point about them is not merely the horse racing, though that is bad enough, but offering prizes to induce fast ladies to exhibit themselves in the capacity of riding and driving jockies—*equestriennes* is the fashionable term—and the county exhibitions are following suit. I remain, sincerely yours,

CHARLES JULYAN.

Presque Isle P.O., Sarawak, Co. Grey.

AN AMATEUR'S EXPERIENCE.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—You often request your subscribers to express their views and give their experience of horticultural matters in your valuable publication, and although I am only an amateur gardener, I thought the results of my attempts might not be uninteresting.

My residence is in Deer Park, a northern suburb of Toronto, and the soil sandy, I may say very sandy, so much so that I have failed in cultivating the strawberry, because in hot weather the roots are burnt.

Raspberries grow well, and the only fault I have to find is with the shoots, which are as bad as weeds. The crop this year was very abundant and fine, and the canes for next year are strong and ripe. I adopt the system of nipping the top when the cane is about two feet high. Three shoots are thrown out from the top, and when these are about six inches long I nip again, and each of these throw out shoots which are again nipped, and so on. Thus a bushy plant is formed, which I think more easily resists the cold and is not so liable to draggle on the ground, and I think the productiveness is increased. I have some "Cuthbert's," and have found the canes hardy and productive, and the fruit showy and good. On the 18th August, I gathered large ripe berries on this year's growth of wood. I have the "Caroline;" it is hardy and productive, but the fruit is poor. In my opinion all the cap varieties are dry eating. I have the "Hopkin's" black cap. It is an exceedingly hardy and rank grower and productive—large berries, and as good, so far as I can judge, as the "Gregg," which would not grow with me. I have the "Taylor Prolific" blackberry. Every winter it killed to the ground until last winter, when it was untouched. It was loaded with fruit, but the dry weather in August destroyed them. I picked the first on 10th August. I treat the blackberry and black cap the same way as the raspberry.

Gooseberries were a very poor crop. I do not know the cause, unless the late May frost. I have "Downing" and "Smith's Improved;" both mildew very much.

Black currants do not do very well, the berries drop off. Red currants not productive.

GRAPES.—I have about ninety vines, about one-third Delaware. The rest are Rogers' 3, 9 and 44, Jessica, Purity, Lady, Pocklington, Elvira, Martha, Moore's Early, Brant, Creveling, Alvey, Burnet, Worden, Brighton, Iona and Vergennes; also the Prentiss. I always prune about the first week in November. During the summer I go over the vines once a week and prune the laterals with my fingers. The trellises are ten feet apart and eight feet high, cedar posts, four by four. Three longitudinal slats, two by one and a half inches. The first one foot from the ground, the second five feet, and the third at the top. Between the

first and second, and the second and third, are two strings of galvanized iron wire.

The vines are ten feet apart. The first vine is carried to the first slat (one foot from the ground), and then an arm is carried in opposite directions along this slat, each being ten feet. The second vine is carried up five feet to the second slat, and then an arm is carried in opposite directions, each ten feet along this slat. The next or third vine is carried along in a similar way as the first, and so on down the trellis. During the first year from about every other eye a cane is allowed to grow upright; in the autumn this is cut back to two eyes. Next year both of these eyes or buds are allowed to throw up a cane, the upper one alone bears fruit, the lower one is to bear fruit the next year. When pruning in the autumn, the cane which has borne fruit is entirely cut away, and the other cane cut back to two eyes.

I suppose all amateurs have to learn from experience. Whether nurserymen are a very sanguine class, or are as blind as a doting mother over the faults of her only child, it is difficult to say, but their enthusiastic descriptions are so very tempting that the reader or listener becomes, like Agrippa, "almost persuaded," and very often like Paul wanted Agrippa to be.

Moore's Early was to be everything that was to be desired in a grape—large, early, good, &c., &c. I have had one for over four years. This year it fruited for the first time and had the magnificent crop of a small bunch and a half. The wood is not much thicker than a pipe stem. On the whole I find it a poor grower, unproductive, and not at all extra early, and I intend to root it up.

The Lady is also a poor grower and unproductive. The berry is a fair one to look upon, but the grape has a decided disagreeable taste, difficult to describe. I shall root it up too.

Pocklington.—This, with me, has also been a poor grower, the wood thin and straggling. I have had a two year old vine for four years, and have about a half dozen bunches. It is no better, if so good, as the Concord, and is too late for this part of the country, not being ripe on 5th October.

The Martha is too poor a grape to encourage, when much better white ones are to be had.

Jessica is a good grape in every way, and I can safely advise every one who has a few vines, and wants a white grape, to put this in in preference to the other white ones above mentioned. It is a good grower, ripens the wood well. The leaves are strong and healthy. It is productive and early, and the fruit is good. Last year it was the only one which ripened with me. This year the berries began to soften on the 17th August, whilst the Pocklington was hard on the 5th September. The Jessica was ripe about the 18th September, and we have been picking them up to the present time, but I notice that they are better when picked shortly after they are ripe.

The Purity. — This is a white grape sent out by Mr. Campbell, of Delaware, Ohio. I put in a one-year old vine three years ago this autumn, and it has this year borne a few bunches, and has made long strong wood. The bunches are small, the berry about the size of the Delaware, and of a clear amber color, and in this respect has a better appearance than the Jessica. The flavor is fine and delicate. The wood and leaves are healthy and free from mildew, and I think the fruit ripens nearly as early as the Jessica. So far I am in favor of this grape.

The Elvira is another white grape.

Is a hardy, rank grower, and very productive. It ripens late, but is now ripe with me. The bunches and berry are small, and the latter have to be thinned as the berries grow so close together. The fruit is of a meaty consistency, and not very good eating, but I should judge will make a very good wine. I would recommend it to any one wanting to cover a shed or fence.

Burnet.—This is a very disappointing grape, and from my own experience is not worth growing. It is very subject to mildew; the berries ripen irregularly, black, red and green upon the same bunch, and some large and others not larger than black currants. It is also late, not being thoroughly ripe yet. It is a good eating grape when you can succeed in getting a decent bunch.

Rogers' 44 is a very handsome black grape, and every person who has room should have one. It is productive, and with me hardy, and with the exception of the "Cottage," the largest out-door grape I have seen. It is later than the Delaware, but still it was ripe this year at the beginning of October. It is not much subject to mildew.

Brant is a black seedling of the late Mr. Arnold. It is a very handsome grape, and the foliage is also handsome. The flavor, however, has too much of the fox or wild grape to suit the taste; I would not recommend it.

Creveling is a good-eating, black grape, and very early, as early with me as the "Jessica." Its great faults are that it is a shy bearer and the bunches very straggling. I had some this year with six, ten and twelve berries on. I would not recommend it to those who only cultivate a few vines; I understand it makes a good wine.

Alvey is a small black grape, rather late, but usually ripens here; is only suitable for wine; it is now ripe.

Delaware, in my opinion, is about as good a grape as can be grown. It has its faults, but on the whole I have not seen any to excel, and but few to equal it. I have an impression, however, that as the vine grows older the bunches become smaller and the vine less productive. I may be mistaken in this. However, this year mine have been very fine. I took the first prize at the Industrial, and the three bunches weighed 1½ lbs. I also took the first prize at Hamilton; the bunches weighed 1 lb. 6 oz. A great number of the bunches were shouldered and the berries were of an unusual size.

Rogers' 9 is a fine grape, with what I call an aromatic flavor. Mine, this year, have had very straggling bunches. There were grapes exhibited at the Industrial Exhibition under this number which were not the same as mine. They were of a dark red color, whilst the books say, and my experience also, that this grape is of a bright or brick-red. I have found it hardy and free from mildew, but it wants plenty of room.

Brighton.—This is an excellent grape, slightly inclined to mildew. It ripens fairly early. The bunches are not as large as some of Rogers', but the berries are a good size and excellent flavor. Every one should at least have one vine of this variety.

Rogers, 3.—I have not had much experience with this grape. Mine has borne a few bunches this year and I like them very much. The vine is hardy and fairly early.

Iona is an excellent flavored grape, but is too late to be depended upon in this part of the Province. I have ripened them and a better grape is not to be desired.

I would recommend to the amateur the following:—White, Jessica and

Purity; Red, Delaware, Brighton and Rogers' 3 and 9. (The Salem and Agawam are too subject to mildew). Black, Rogers' 44. (Rogers' 4 and 19 I have found to be very good.) I attribute my success this year to the fact that last fall I laid the vines down and covered them. I did so for this reason: I came to the conclusion, from the unusually cold summer, that the wood and buds did not ripen, and if left exposed they would be killed by the frost. This was the experience of some of my neighbors. I intend to do the same this fall, for I do not think the wood or buds will be ripe enough to stand the winter. I notice at this date a good deal of the wood of a greenish hue.

I have a few peach trees. In the spring there was a fair show of bloom, but the May frost destroyed the fruit. However, on the Early Canada I had four fine peaches which were thoroughly ripe on the 20th of August.

Cherries had a fair show of blossom, but no fruit, which I attribute to the frost.

Plums did not prosper either. I tried Paris-green, but probably was too late in putting it on. A neighbor told me that he had destroyed the leaves on his by, as he supposes, using too strong a dose of Paris-green.

I have had some little experience in the vegetable line. I heard so much of Bliss' American Wonder Pea that I thought I would try it this year. I sowed some and Carter's Little Gem at the same time, and I prefer the latter to the former. I sowed on April 11th and gathered on the 25th June. I found Carter's more prolific and just as good eating. I, as a rule, sow the Gem and Blue Petercorn, which has not been a success this year. I always put in the Tom Thumb (dwarf kind) for an early crop, and have found it very satisfactory. Stowell's evergreen corn has been a poor crop; several of the cobs had no corn at all on them and a great number only half covered. I suppose the seed must have been poor.

Turnips do not succeed with me; they are hard and stringy, possibly from being a sandy soil. Beets do well. I put in Extra Early Egyptian Blood Turnip and find them very sweet and tender, and for the winter crop "Half Long Dark Blood."

Carrots also do well. I find the "Early Scarlet Horn" and "Half long Scarlet Nantes" to answer for the summer and winter.

Cabbage do fairly well. Cauliflower did very well last year, but this year have been a failure. The caterpillar, of course, attacks them, but I manage to get all I want.

Tomatoes.—I have this year the "Paragon" and "Livingstone's Perfection." Both are very fine and well-flavored. I have, however, found many to rot, but the production is so large that the decayed ones are not missed. I have the "Mayflower;" it is a very good Tomato. I put the plants in on the 12th June, and gathered fruit on 13th August, earlier than from the others, but the flavor, in my opinion, is not so good as that of the "Paragon" or "Perfection."

I planted celery the new way, *i.e.*, not in trenches, and have found it to answer very well notwithstanding there was so much dry weather in August.

Lastly, I bind the *Canadian Horticulturist* when I have three volumes; that is, I bind three volumes in one, and find them make a handy book and easier of reference.

Hoping I have not tried yours and the readers' patience,

Believe me, faithfully yours,

ALFRED HOSKIN.

SHIPPING APPLES TO ENGLAND.

REPLY TO MRS. GWYN.

To the Editor Canadian Horticulturist.

Dear Sir,—The enquiry of Mrs. H. C. Gwyn of Dundas, on page 222, October number, requires more than an ordinary reply, as it touches upon a subject of much importance to Ontario apple growers. After an experience of several years in dealing with the markets of the chief cities of Britain, I advise growers to sell as best they can to purchasers at home who are exporting, or dispose of the crop in the nearest market for home consumption. If, however, a grower has, say a thousand or more barrels of very choice, it will pay any year to ship to Liverpool and accompany the cargo, disposing of them in that city in bulk or shipping to London or Glasgow. In this case it is necessary to place them in a storehouse and open the top of a number of barrels of each kind for inspection.

To ship to a commission firm just means this: That, upon arrival in Liverpool or Glasgow, the fruit is transferred to a large storeroom, opened and examined, an auctioneer is called in who sells them by the hundred or more barrels to the highest bidder who happens to be quick enough to get in a bid, for these auctioneers do not dwell a moment to get a higher purchaser, and hence the result may be either loss or gain to the shipper. Or the commission firm *may* dispose of them by private sale, in lots, if they are not pressed for storeroom for incoming cargoes, in which case the results are likely to average better. It is better, therefore, for the grower to take the best obtainable price at home unless he can go with the cargo. Those who wish to test this matter should be careful of the following points: Have all the apples hand-picked and laid upon the ground under the trees for a week or ten days to *sweat* and toughen the skin. Then sort over these, taking out any spotted or wormy specimens that may have escaped the eyes of the pickers, and proceed to pack by placing the first layer with stems down and the next with blossom-end down, after which they can be put in with baskets, shaking the barrel after every two baskets until it is filled sufficiently to pack and press solid. This has to be judged of according to the variety, as some will press down more than others in order to carry solid. In packing it will pay to have apples sorted according to size and color, and the barrel branded accordingly. When the barrel is pressed and closed securely turn it end for end and brand it, so that when opened the fruit will be seen to advantage with stems up. And *be sure and have them named correctly.* If you have a hundred barrels of King of Tompkins County named Cayuga Red Streak, as I have seen often, you will only get the price of the latter variety or the cull price, whereas, if they are correctly named, you get the price of that variety according to your sample. It will not pay to send inferior fruit *in quality* to Britain now even although high colored, as Britishers are beginning to know a little something about quality in an apple! As a rule they prefer high-colored fruit, but that, so far as it is or has been a prejudice, will soon give place entirely to intrinsic value in quality, and hence the R. I. Greening, which has been down low in that market, is coming to the front. Give me a cargo of choice apples, leading varieties, such as Russets, Baldwins, Spies, King Tompkins County, R. I. Greening, Ribston Pippin, Blenheim Pippin, Wagner, Ontario, Mann, &c., all well selected and packed, and I care not how the British market may be flooded with apples from other countries I can sell at a paying figure, and am sure of a higher

price than any other country can demand, because our apples, especially from the central and northern belt of Ontario, *are superior in point of* QUALITY *to any in the world*, and British as well as other consumers are becoming aware of this. To growers I say choose best leading varieties and plant more trees. Plant, plant, plant!

ALEX. McD. ALLAN.

Goderich, Oct. 20th, 1884.

HYDRANGEA PANICULATA GRANDIFLORA.

DEAR SIR,—At your request, I beg to state that the *Hydrangea paniculata* has flowered annually, but not to the extent expected. Our elevated tableland in the county of Perth is, perhaps, not adapted to the *grandiflora* of more favored localities; or the plant may have been neglected in some particular.

The other plants, grape vines, trees, &c., have all done well, and are all generally thriving.

Yours truly, JNO. BUCHAN.

Stratford, Oct. 14th, 1884.

HYDRANGEA PANICULATA GRANDIFLORA.

DEAR EDITOR,—In the last number of the *Horticulturist* I notice Professor Budd, of the Iowa Agricultural College, making some very strong remarks about the *Hydrangea paniculata grandiflora*, About the beauty of this plant, or rather an autumn shrub, I can safely say that I have one that has stood the cold of the last three winters, and I never saw anything more beautiful than it was these last few days. I must say it was more than beautiful. I could safely say it is the handsomest shrub I ever saw at this season of the year.

Wishing you every success with your *Canadian Horticulturist*, I remain,

Yours, most respectfully,

WM. CAMPBELL.

Barrie, Oct. 11th, 1884.

DE OMNIBUS REBUS.

TO THE EDITOR.

DEAR SIR,—As want of time prevented our getting through the programme at our meeting, I dare say you will give us space to work it out.

Peas for table use, the best varieties; Can they be profitably grown for Market?—At the last meeting of the Massachusetts Horticultural Society, held in Boston June last, and where the exhibits are said to have been, in number and excellence, never equalled on the continent, the report says, "All the premiums for peas, regardless of variety, were awarded for American Wonder." I think your readers will set it down as their standard till they find better. I have found it so much superior to any other kinds I have tried that I refrain from mentioning other early peas. It is a perfect dwarf, on vines about 10 inches high, bearing long, well-filled pods; quality excellent.

Bliss' Abundance Pea.—Last spring I sowed two pints of this variety, which, as most of your readers know was also raised by the late Mr. Charles Arnold of Paris, and for which he realized the nice little sum of $1,000 for his first sale of *less than a bushel.* This is said to be the most prolific variety known; half dwarf vines about 18 to 20 inches long; pods 3 to 3½ inches long; second early. Speaking of its great productiveness, Messrs. Bliss say that from one of their growers they received 667 lbs. of peas from 10 lbs. of the seed furnished. I had hoped to go and do likewise, but, Mr. Editor, you are aware that the blackbirds in these parts are passionately fond of peas, and after they had devoured my half-acre of American Wonder peas they attacked the Abundance. I thought they had done the same with these, but on returning from my seaside trip I found a bunch of them in the summer-house. I didn't expect to find any peas in it, but they

were threshed out and we got 20 lbs. of peas. About half the seed was sown in the field, these in the garden ; the former was entirely devoured, so these 20 lbs. were the product of about one pint after the birds had their share, probably three-fourths. I never tasted them.

The Hon. Marshall P. Wilder says of the pea : " It is very productive and a splendid acquisition, of most excellent habit, early, with very full pods, sweet and luscious."

As it branches out, as Bliss says, to a veritable bush, the peas have to be planted 6 to 8 inches apart. Although, it is said, it will when well hoed do without brushing, it is better with it. This, and the difficulty of planting 8 in. apart, is an objection. Perhaps it might be profitable as a field pea sowed broadcast.

As to the profitableness of growing peas green for market I have no experience, but think there can be no money in it. Last year I sold 12 bush. American Wonder for seed for $60, off about one-half acre in drills.

Tomatoes.—I can highly recommend the Mayflower. Very early, large, perfectly smooth, beautiful bright red, rich flavor, and very productive. I distributed a few packages of the seed at our meeting to our Directors. Although the Editor says I am an austere man, they need be afraid of neither me nor them, but go hide them in the earth and let us have their report when the time comes.

Currants.—When the March number of the *Horticulturist*, which contained a picture of Fay's Prolific Red Currant, reached England, I was asked if such were the currants we grew in Canada. Of course I answered in the affirmative. They look well on paper ; I have not yet fruited them. I bought one small bush in 1882. Last spring I divided all the new wood of three small bushes into cuttings, three eyes in each, planted them in pots in the hot-bed, and thirty out of thirty-one lived and are now fine thrifty plants.

Beets.—The Egyptian beet. I think, yet stands first on the list for earliness. I tried this year Burpee's Imperial Blood Turnip, and can recommend it as an excellent summer beet. The cook complains of it being too large for the pot. At one of our meetings a member, as a cure for this, recommended sowing later, and at intervals, I have tried it with good results.

Grapes.—The first time for several years our stock, consisting of Champion (if it is a grape) Concord, Hartford, Delaware, Salem, Massasoit, Agawam, Brighton, Wilder and Moore's Early have all ripened. The three first-named have never failed to ripen. Although the others ripened this year we still hope to have some kinds we can depend on ripening in our cold north about the middle of September.

The Spot on the Apple Tree.—Whether or not the committee appointed to experiment on the application of various substances likely to act as a preventative to the disease made their report, I am unable to say ; if they did it must have been when I was absent.

I am sorry to say my appliances were very unsuccessful. I tried dry unleached ashes thrown over the trees when the dew was on, unslacked lime in the same way, sulphur stirred in water and syringed, and sulphate of soda in the same way, but I could see no difference on trees so treated from the adjoining ones. My neighbors say their orchards are freer from the spot than usual, while some of them say they are entirely so. I see little improvement in mine ; in an orchard of 500 trees I think I have about 1,000 bushels of Fameuse nearly worthless.

Trees that have all along been cultivated round show more of the spot than older ones that have for some time been in grass. The Fameuse and McIntosh suffer the most.

If your readers have followed me so far I commend their patience.

Yours truly, JOHN CROIL.

P. S.—Since writing the above, I find in the October number of the *Horticulturist* answers solicited, with experiences of the *Hydrangea paniculata*, and its hardiness. And may say that in our cold north, where 25° below zero is nothing uncommon, it has stood the winter unhurt without any protection. We endorse Professor Budd's opinion of it as a grand shrub—a plant of it well worth a year's subscription to the *Horticulturist*.—J. C.

ANNUAL EXHIBITION

OF THE ABBOTSFORD FRUIT GROWERS' ASSOCIATION.

This society held its 8th annual exhibition on the 25th ult., at Rougemont, at the special desire of the Rouville County Agricultural Society. It was held in a large open shed built for the purpose, and near the Agricultural Society's show grounds. Such a shed is the best possible building for such an exhibition, and the special thanks of the society are due to Messrs. James Code and Richard Standish, of Rougemont, for their hard work and plucky perseverance in this matter. Of apples, there were upon the tables 469 plates including 53 plates of crab apples. In the contest for best collection, it was expected that the tug of war would be between the best Abbotsford collection and that of Mr. Whitfield of Rougemont. Yet the three prizes were taken by Abbotsford men. Mr. Whitfield had plates of Ribston Pippin and Northern Spy which were wonderfully fine. He had the Baldwin, Rhode Island Greening, and King of Tompkin's County, tender varieties which cannot be grown upon the exposed slope of Yamaska Mountain. Abbotsford orchardists have been planting a great many new varieties, yet we cannot help feeling that had Mr. Whitfield's orchard been gathered, labelled as carefully as the Abbotsford men do theirs, it would have stood a fair chance of being first.

Of the 469 plates exhibited, about 340 were from Abbotsford, 128 from Rougemont, of which 55 were from Mr. Whitfield and 1 from St. Hilaire. In the single plate competition, however, Rougemont did well and the one plate from St. Hilaire took first prize for "best plate of Fameuse."

The display of out-door grapes was exceedingly fine—165 plates were shown. Mr. Wm. Mead Pattison, of Clarenceville, appeared with a collection of 65 varieties including most of the new varieties most worthy of trial.

Mr. Pattison has undertaken a work of great public usefulness, and is pushing it with an amount of perseverance that must bring good results. His collection was unanimously awarded the first prize, and he was then harnessed in as a judge on the remaining sections of grapes.

The next largest collection was an Abbotsford one of 34 varieties. In the prize for best five varieties, the best two collections were nearly a tie; as the judges examined them, their merits seemed to balance in the scales. The first prize was finally adjudged to Mr. Gibb, while in the opinion of Mr. Gibb, Mr. N. C. Fisk should have had it, owing to the very remarkable size of his Lindleys.

In vegetables there were many good samples, but in general variety far below the collection at the Knowlton, Dunham and Granby horticultural ex-

hibitions. In "best collection" Mr. Whitfield's gardener, Mr. Hughes, was head and shoulders above other collections.

In flowers, in many of the sections, such as collections of plants in pots, Abbotsford would not compete, owing to the distance and it was hoped that they would have been filled by competitors from Rougemont. Rougemont, however, we regret to say, did not contribute *one single flower*; neither did it compete on canned fruit, a section which Abbotsford could hardly carry so long a distance.

RASPBERRIES.

N.Y. AGRICULTURAL EXPERIMENT STATION.

The Station Horticulturist, Mr. E. S. Goff, has taken great interest in the raspberry, and the following results of our trials will be read with interest:—

In the year 1882, two plants each of thirty-two varieties of Raspberry were planted out in the Station garden. The plants were set out in rows, six feet apart, and three feet apart in the row. No winter protection has been given. The soil has been cultivated sufficiently to keep down weeds, and the canes were tied to stakes as they became sufficiently tall to require support.

All of these plants have survived thus far, except five, viz.: two Brinkles' Orange, which were winter-killed the first winter after setting, two American Blackcap and one Prosser. The remainder of the plants have borne their first full crop the present season. We have kept a careful record of the date at which each variety commenced to ripen its fruit, the number of days that each continued in bearing, and the total yield of each, taking notes, also, as to the comparative size and quality of the fruit in the different varieties. For the information of those interested we present an abstract of our results.

The total yield is given in ounces and decimals of an ounce; and the comparative size of the berries of the different varieties is shown by the weight of twenty-five samples, given in grains:—

	First ripe Fruits.	Total yield in ounces.	No. of days in bearing.	Wght of 25 berries in grains.
1. Brandywine	July 5	7.295	33	478
2. Caroline	" 8	44.374	30	524
3. Clarke	" 5	65.386	30	655
4. Cuthbert	" 8	22.868	30	601
5. Davison's Thornless	" 1	14.233	22	300
6. Delaware	" 5	44.529	33	447
7. Early Prolific	" 3	80.326	35	655
8. Fastolff	" 5	19.845	26	540
9. Fontenay	" 5	31.527	33	833
10. Franconia	" 12	15 185	26	640
11. Gregg	" 14	17.009	21	439
12. Herstein	" 5	17.239	26	620
13. Henrietta	" 5	19.654	26	617
14. Highland Hardy	" 2	12.427	28	408
15. Knevitt	" 5	19.820	33	798
16. Mammoth Cluster	" 10	26.392	25	331
17. Mrs. Wood	" 3	36.035	35	733
18. Naomi	" 3	1.323	28	234
19. Parnell	" 5	26.607	30	540
20. Philadelphia	" 8	6.420	23	227
21. *Prosser	" 5	15 083	26	308
22. Palluan	" 5	6.952	26	308
23. Red Antwerp	" 3	18.556	35	555
24. Reliance	" 5	17.242	26	432
25. Seneca	" 10	29.030	25	347
26. Thwack	" 3	29.085	35	710
27. Turner	" 3	19 171	28	432
28. Vice-Pres. French	" 5	35.865	30	586
29. Victoria	" 5	37.090	33	463
30. Yellow Antwerp	" 10	20.529	28	470

* The yield of this variety is calculated from one plant.

The following notes were made as to quality:—

2. Delicate and pleasant, but not rich; moderately firm.

3. Rather sweet and delicate, but not rich; moderately firm.

4. Very sweet and rich; firm.

5. Sweet and rich; rather firm.

6. Rather soft; very sweet and delicate, resembling that of the wild red raspberry.

7. Flavor a well-marked, rather harsh acid; moderately firm.

8. Moderately rich, sweet; not very firm.

9. Extremely rich and sweet; moderately firm.

10. Rich and sprightly ; moderately firm.
11. Flavor rather inferior, firm.
12. Sweet and delicate ; moderately firm.
13. Insipid, with little raspberry flavor ; moderately firm.
14. Very sweet and delicate ; rather soft.
15. Moderately rich and sweet ; moderately firm.
16. Insipid ; firm.
17. Very rich, sweet and delicate ; rather soft.
18. Very sweet, but lacking raspberry flavor ; rather soft.
19. Lacks sweetness, richness and raspberry flavor ; moderately firm.
20. Rather insipid ; moderately firm.
21. Very sweet and delicate ; moderately firm.
22. Sweet, but leaves an acid taste in the mouth ; moderately firm.
23. Moderately rich and sweet; rather soft.
24. Flavor insipid ; moderately firm.
25. Rather insipid ; firm.
26. Sweet and rich ; quite firm.
27. Very sweet and delicate ; moderately firm.
28. Extremely rich and sweet ; moderately firm.
29. Extremely rich and sweet ; moderately firm.
30. Delicate, but not high-flavored ; very soft.

It will be observed that our list is not confined to the newer varieties, but includes many of the older sorts as well.

The old Early Prolific proved by far the most productive. This variety, now little grown, possesses the valuable qualities of great prolificacy and hardiness, with entire freedom from thorns ; and though the harsh acid flavor of its fruit makes the latter undesirable, it would seem that its good qualities might render it valuable as a parent for new varieties.

The Clarke proved second in productiveness, the Delaware third, and the Caroline fourth ; the Philadelphia, Brandywine and Naomi, were least productive. Davison's Thornless was earliest to ripen, while Gregg was latest. Early Prolific, Mrs. Wood and Red Antwerp continued longest in bearing, while Gregg yielded its crop in the shortest time.

It appears that the berries of Knevett, (Knevett's Giant) were largest, those of Mrs. Wood were second in size, while those of Naomi and Davison's Thornless were smallest. In flavor, the Delaware seemed to surpass all others in the characteristic aroma of the wild red raspberry, and Fontenay, Vice-President French and Victoria were superior in richness and sweetness.

E. Lewis Sturtevant, *Director.*

SOME HARDY SHRUBS NOT WELL KNOWN.

BY PROF. J. L BUDD, IOWA AGR. COLLEGE.

Hydrangea lævigata : Growth smaller than *H. paniculata grandiflora*, with foliage more like that of our greenhouse species. Flowers in June and July in large rounded cymes of small crowned white flowers. It seems quite as hardy as *paniculata*, and is propagated in the same way.

Hypericum Kalmianum : A low spreading shrub with neat foliage, and the greatest profusion of gay yellow flowers, during August and September, or until frost. We have a section, in low hedge form, which is much admired during the fall months.

Hypericum hircinum : A much branched low shrub with pretty foliage, and a profusion of quite large yellow flowers during July and August. Much prized in Europe.

Hypericum salicifolium : A Russian species with light colored, willow-like foliage, and a great show of bright yellow flowers during July and August.

Hypericum elatum : An erect growing, much branched species, with peculiar yellow flowers, with yellow styles longer than the stamens.

Hypericum androsœmum : Of oriental origin, known in Europe as "Sweet Amber." Its foliage has peculiar glandular dots. Flowers from July to September in terminal clustered cymes of bright yellow flowers.

All of the shrubby St John's-worts are propagated by base cuttings starting from the crown.

Cornus stricta variegatus : This seems to do better with us than the C. variegatus of the Eastern nurseries, and its foliage is brighter and its leaf contrasts of pure white and varied shades of green are more striking

Cornus alba Sibirica : A pretty shrub with bright red shoots, fine plicated foliage, and a profuse show of white flowers in June. Propagated by ripe wood cuttings.

Prunus padus aucubœfolia : In the notes on the ornamental varieties of the Prunus this was overlooked. In our climate it is by far the finest thing we have in the way of shrubs with ornamental foliage. Visitors note it from afar and have only words of praise. The form from Central Russia has larger, thicker and more perfectly mottled foliage than the one common in Eastern nurseries.

Cytisus capitatus : The northern forms of what in England is known as the "Broom" are perfectly at home with us. The "headed flowered Cytisus" is a peculiar hairy species with yellow flowers in July in dense terminal heads. The foliage is in triplets, and looks much like that of the red clover, very pretty on small lawns, not often growing over two feet in height.

Cytisus purpurea : Also a small shrub with 3-foliate leaves. Flowers in pairs; varied in color from rosy purple to white in the varieties. Propagated by base cuttings.

Potentilla fruticosa humulus : A very low grower with five-foliate clover-like leaves, and bright yellow flowers in July, very pretty for low borders. *Potentilla fruticosa* is much the same, but more erect in habit.

Potentilla Salesovii : From Siberia. Pinnately cut leaves, thick and leathery. Flowers yellow, numerous, and pretty. A very desirable low-growing shrub that will attract much attention.

Euonymus nanus : A very low form of the "Burning bush" from the Altai Mountains in Siberia. The foliage, flowers, and scarlet fruits are pretty, and it should have a place in border planting.

Daphne Altaica : The shrubby Daphnes grown in the milder climate of the Eastern States, are tender with us, but fortunately the finest of the family I have seen is from the foothills of the Altai mountains in Siberia, and is perfectly hardy with us. The foliage is thick, glabrous, silvery, and in all respects pleasing. The flowers are in terminal umbels in fives, are pure white, and decidedly more showy than any of the genus grown in the open air. Propagated by ripe wood cuttings.

Ligustrum vulgare : The English, French, and West German forms of the "Privet" have not thriven in our prairie soil and climate. As introduced from Poland and Siberia it seems perfectly hardy and the foliage endures our summer heat and aridity with unimpaired beauty. For ornamental hedges, and for hiding undesirable views or objects it is unequaled, as its foliage so nearly approaches the myrtle. It produces great crops of dark purple berries which hang well into the winter unless taken by the birds. Grows readily from the seed or cuttings.—*Prairie Farmer.*

THISTLES.

(From Colin Clout's Diary).

Nature, indeed, has been very prodigal to thistles; she has given them every advantage and no enemies on earth, except farmers and donkeys. Just look at such a head as this that I have cut off clean with a switch of my stick, and then consider what fraction of a chance the wheat or the wheat-growers have got against it. Each stalk supports some dozen heads of blossom at least, and each head contains a hundred separate flowers, every one of them destined to produce in due time a winged and tufted seed. The thistles are members of the great composite family, like daisies and the dandelions, and they have their little bells clustered together after the common composite fashion into close and compact flower-heads. If you cut the head through with your knife, longitudinally—it is difficult to tear it open because of the prickly tips of the bracts—you will see that it is made up of innumerable distinct purple florets, each with five petals united into a long deep tube, and each with a little seed-like fruit at the bottom, crowned by a ring of hairs (the future thistle down), which are in fact the altered and modified relics of original calyx. Even in its simplest form, the composite flower bears the marks of being an extremely developed floral type; and the thistle, though relatively simple, is very far from being the simplest among the composite plants. A glance at the past history of the race will show why it now proves so persistent and noxious an enemy to us agriculturists. It is one of the most highly evolved and successful of living plants; and it pits itself against the relatively simple and sickly wheat, an artificial plant with a feeble constitution, which we ourselves have sedulously created for our own special use. The natural consequence is that if we did not give every advantage to the wheat and put every obstacle we can in the way of the thistles, they would live it down in a single decade; as European weeds are living down the native weeds of New Zealand, or as English vermin are living down the aboriginal marsupials of isolated Australia. The primitive ancestral composite, to go no further back in its history than that, was already a very advanced sort of plant, with a number of little tubular blossoms, like miniature Canterbury bells, crowded together compactly into clustered many-flowered heads. The petals were probably purple, and its calyx had even then assumed the form of long floating hairs to the ripe seed. But at an early stage of their life as composites, the group broke up into three minor tribes, from which are severally descended the daisies, the dandelions and the thistles; for under one or other of those general heads the many thousand known species may be roughly classified. The daisy tribe, as we all know, took to producing mostly yellow florets, with white or pink outer rays, to allure their special insect allies. The dandelion tribe turned all its florets throughout the entire head into long rays, like the external row of the daisies, and colored them uniformly yellow throughout, on behalf of the little yellow-loving flies by whom its seeds are usually fertilized. But the thistles, the central tribe of all, retained more simply the original habits of the race, in that all their florets are still tubular, instead of being split out into strap-shaped rays; while the vast majority of them keep as yet to the primitive purple tinctures of their race, which endear them to the higher insects. Bees are the chief fertilizers of thistle-heads; but butterflies also frequently pay them a visit, and in the home-close at the present moment they are being attended by thousands of

little black and red burnet moths, which prefer the long bell-shaped blossoms even to that favorite flower with them, the bird's-foot trefoil. Almost every head in the field is covered by half a dozen moths at once, all drinking nectar from the recesses of the deep long tube, and all unconsciously carrying pollen from stem to stem on their uncoiled proboscis. But even after the thistle tribe had separated from its sister composites of the daisy and dandelion groups, it was far from having reached the fully developed thistly type. The lower members of the tribe have no prickles, and some of them are very simple, unarmed weeds indeed. The common sagwort, which abounds in copses and hangers in the south of England, represents the first rough draft of a thistle in this nascent condition. To look at, it is very thistle-like indeed, especially in its purple flower-heads, closely surrounded by a set of tight but not prickly bracts. Living as it does in bushy places, however, where cattle seldom penetrate, it has not felt the need of protective defences, and so it has not been ousted from its own special haunts by the later and more highly developed true thistles, which are by origin weeds of the open grass-clad lowlands, evolved under stress of damage from herbivorous animals. But where cows and horses abound, or, still earlier, where deer and antelopes are common, the defenceless sagwort would have little chance, and under such circumstances only the harder and stringier plants, or those which show some tendency to produce protective spines and bristles could hope for success in the struggle for existence. Thus there has arisen a natural tendency in the level plains to favor all weeds so protected; and, as a matter of fact, the vast majority of open lowland weeds at the present day do actually possess some protective device of stings, harsh hairs, prickles, or spines, or else are very stringy or very nauseous to the taste. Our object as cultivators is generally to keep down these natively well-endowed races, in favor of the softer grasses and clovers, which we are obliged artificially to fence in and protect with all possible precautions. But even so, in spite of all our endeavors to expel nature with our civilized pitchfork, "*tamen usque recurrit.*" The thistle that is overrunning the home-close ranks, indeed, is among the best adapted and most successful of its kind, which is only the converse way of saying that it is a most troublesome and ineradicable weed. Creeping thistle, we call it, from its peculiar habits; for, besides its open mode of propagation by its floating seeds, it has a sneaking trick of spreading underground by its buried root-stock, which sends up fresh stems every year from the joints or nodes. It is the commonest of all its race, not in England only, but throughout the globe; for its winged fruits have been carried to every quarter of the world with seed corn and clovers. Cut it down, and a new head springs from below the wound; hack it close to the ground, and the root-stock pushes out a fresh young shoot from an unsuspected corner; harrow it up bodily, and the seed blows over at harvest time from all the surrounding fields, just at the right moment for the autumn ploughing. For hardiness of constitution it has no equal, and this is partly due no doubt to the fact that universal cross-fertilization has become absolutely certain by the separation of the sexes on different plants. This globular head that I have just swished off has none but stamen bearing florets; this other more conical cluster, that I am trying to cut with the aid of my knife and handkerchief, contains nothing, on the contrary, but pistils and seeds. Such careful separation of the two elements

perfectly ensures a good cross in each generation, and so greatly improves the quality of the strain. Add that every stems produces some thirty or forty heads, each containing more than a hundred florets, with winged seeds that fly about everywhere, and can you wonder that thistles are so plentiful? Even the less developed types, like the melancholy thistle of the Highlands, so called from its gracefully nodding or drooping head, get on well enough, though that particular species differs from all others in not being prickly, and depends for its defence entirely on its stringy nature. Centaury and cornbluebottle, too, are others of the same tribe, which have differentiated themselves in less unpleasant ways than the true thistles; while the common burdock has turned the prickles on its head into small clinging hooks, which help io disperse the seeds in a somewhat different manner by clinging to the legs of animals; and it is a significant tact that the burdocks are most essentially wayside weeds of the waste places In cultivated lands. But its own particular group—that is to say, among the purple central composites—the creeping thistle in the home-close is certainly the highest existing product of vegetable evolution; and that is what makes me bestow upon it after all, a certain extorted merit of grudging admiration. It lays itself out to be troublesome; it succeeds to perfection.

SARAWAK.

RUSSIAN APPLES.

Dr. Hoskins writes to the *Home Farm* in defence of some of the Russian apples which he has tested at his place in Northeastern Vermont, and gives his opinion of a few of them as follows:

For the earliest fruit, the Yellow Transparent and its close relatives, Grand Sultan and Charlottenthaler are among the very best I know of. They ripen through August. My first, this cool year, were marketed August 2. There are a few on the trees yet, Sept. 6. For such early apples they are long lived, keeping two weeks easily. They are shaped some like Porter, but rounder, and with a lighter yellow, becoming perfectly ivory white if left on the trees until dead ripe. I think no one can distinguish the trees or the fruit of these three varieties, when mixed, with any certainty, at least. All are iron-clad against cold, but Grand Sultan shows distinctness in dying sometimes, when young, of "bark blight," which I have not seen in the other two. It is thought that the Charlottenthaler runs rather the largest in fruit, but I have not had that variety long enough to be sure about it. All these are very productive, full medium in size, and on young trees often large. In quality for dessert, when dead ripe, they are hardly inferior to the Early Harvest, and they are always as smooth and fair as turned ivory

Next let me name St. Peter's apple, as it is next in season, being now (Sept. 6) full in eating. It is well striped with red, small to medium in size, the tree of rather slender but free growth, and quite healthy. Those who have made up their minds from the Duchess that there are no good eating apples among the Russians will wabble badly on Yellow Transparent, and give it up entirely on St. Peter. "As good as Fameuse," was the verdict, only yesterday, of an orchardist from the central part of the state,—and Fameuse is our standard of excellence for a dessert apple. This tree does not bear as young as the Yellow transparent class, but is a full bearer at eight or ten years from planting, yielding quarter and half crops several years sooner. Nothing I have sells better. It is always fair, indeed it is not necessary to repeat this of

Russian apples. I never saw one that spotted or cracked.

Prolific Sweeting is the only large fall sweet, at once productive, handsome, good and iron-clad, that I have yet got hold of. It is a vigorous, upright tree, about with St. Peter in coming to bearing, but very productive after say ten years' planting. The fruit is large, fair, smooth, roundish oblate (flattened), straw-yellow in color when ripe, not so good as some of your best dessert fall sweets of Southern Maine, (the old Franklin Sweet, for instance) but full medium in quality, or "very good," and a quick selling apple bearing transportation well. Season, all of Sept. and into Oct. It is a fine baking apple. Top grafted on Tetofsky, it bears quite young.

The last apple I shall speak of this time is one that I have been very slow in making up my mind about. It has been the longest coming to full bearing of any of my Russians imported in 1870, and has changed and improved a good deal since it first showed fruit, four or five years ago. This is the Golden White. The tree is a most vigorous grower, even in poor soil, with large, thick, dark green leaves, white beneath as a silver poplar's—a very peculiar tree. Its growth is spreading, even before it begins to bear, like the Ribstone Pippin. In fact it is a magnificent grower of the most robust character of any of the Russians, by far, that I have seen, and yet a true Russian. The fruit is as large as the Baldwin, round, but uneven, like a ball of putty, and with very little basin or cavity. Heretofore with me it has not colored much, but this year there is a full crop that is coloring up well, a dull red, specked with gray, on a dull gray-green ground, odd rather than attractive, or rather attractive by oddness. It is a late fall apple, keeping well through November. In quality it is mild, pleasant sub-acid, soft-fleshed but not "squashy," and quite fine grained, not high flavored, but a good eating apple. It is so good a token that it might be called early winter even here in lat. 45°, and in Northern Aroostook would probably keep longer. It is already becoming popular in Montreal, where, somehow, they got it quite soon after its importation. Mr. R. Brodie of that city exhibited it last year at the Montreal Fair, and spoke strongly in its praise.

AMONG THE SMALL FRUITS.

In such dry seasons as this the benefits of growing strawberries by the hill system are very great and plainly to be seen. My plants, kept free from runners, kept on bearing long after the "matted beds" of other growers had begun to wilt in the foliage and fail in fruit. And yet my land is light and poor, and the variety, the Bidwell, which is supposed to be the readiest to fail in maturing its fruit.

WHAT A NOBLE VARIETY THE BIDWELL IS!

That is, where it succeeds. The berry so large and fine, the quality so good, and the yield so abundant. If it would only ship a little better, and if the "greentip" were not so common, it would be about as near perfection in the strawberry as we can well expect in this world of imperfections. The only patch at all fairly treated, yielded at the rate of 240 bushels to the acre this year, exceeding both Wilson and Crescent close by. Beat it, who can, in such a season and on rather poor soil.

"THERE IS ALWAYS ROOM AT THE TOP."

In the height of the strawberry season, I am informed, well-grown Sharpless brought 25c per quart and upwards in Toronto. I found prime Wilson and Manchester retailing on King street at 15c per box, while a few blocks away on the same thoroughfare, inferior

berries were going slow at 10c per three boxes. Grow good fruit or none if you want profit.

SHARPLESS STRAWBERRY

does not bear well on my soil. But my soil is poor, my business (plant growing) not requiring great fertility. This variety wants *rich* soil, and improves remarkably with fertility. I get most remarkable accounts of its productiveness from growers at Barrie. It has the peculiarity of yielding better the second "full-crop" than the first.

DO RASPBERRIES PAY?

They pay me. Two-thirds of an acre yielded me a crop that sold for over $100, without an ounce of manure having been applied for two years, and with only one hoeing this year at a cost of, say $3. Was it weedy? Yes! Now some one tell me to practice what I preach, for I advocate clean culture. But the point is, *the crop was there.* Highland hardy and Turner are not the largest of berries, especially under neglect, yet they averaged about nine cents per quart around town in this season of unusual abundance of wild berries.

SHAFFER'S COLOSSAL

is *the berry* for home use or for canning. How the bushes do yield! I think one year plants bear about as much as full-grown bushes of other sorts. Purchasers object to the color, which is an unattractive maroon, but a little testing and a cent per quart of decrease in price reassures them. The quality is said to be rather "acid," but we find it has the singular merit of tasting better than we expected from report.

BUT THE CUTHBERT

stands easily first among all tested red raspberries. The bush is rather slender in growth the first year or two, but with age easily stretches up six feet. And the fruit possesses the rather singular combination of good flavor, along with beauty, good size, and firmness for shipping. Its lateness leaves room for a good early berry, but with its excellent productiveness it will prove hard to beat wherever it stands the winter, as well as it does in this northern lake region.

THE GREGG

occupies among black caps the place that the Cuthbert does among the reds. Yet the Gregg does not seem to be quite so hardy, nor will it succeed so well on sandy land. Still its great size, good quality, and especially its firmness, make it yet valuable to fruit growers.

FOR SANDY LAND

the Tyler or Souhegan is desirable. Its persistence, great bearing, good size and flavor are well worthy of commendation. Yet the man with well-drained clay loam must, as a rule, beat his rival of the sandy location in black cap growing, if other conditions are equal. The Tyler is quite profitable on sandy loam, but more so with more clay under it. So are red raspberries for that matter, but the difference is not so marked.

SUPERB, HANSELL, CRIMSON BEAUTY.

Which is the best? The question as to the largest—the Superb. But its berries are apt to come to pieces in the handling. The color is dark, the quality indifferent and productive. The Hansell is very beautiful and firm; quality better than Superb. Plenty good enough to sell, but requiring further test, as only one small plant was big enough to bear. Crimson Beauty is luxuriant in growth, and, seemingly, so far, very productive, while the berry is very handsome and large, but the flavor is about like Hansell and not so firm. Further testing is required as to earliness and comparative superiority on the average of these two kinds.

TAYLOR'S PROLIFIC BLACKBERRY

is hard to beat, where Lawton and Kittatinny freeze down as they do

here. But the Taylor comes through in beautiful condition, and it is now bearing finely with me. It is not of the largest size; but an inch to an inch-and-a-quarter long gives a berry good enough to sell very fast at good prices, and plenty good enough to eat when it is of the sweet excellence of this variety. I like the Taylor, too, because it does not run all to rampant "wood growth" on rich land. Manure it as if it was a raspberry and see if it will not be remarkably profitable in any region too cold for peaches, which ripen at about the same time.—T. C. Robinson, *Owen Sound, in the Canadian Farmer.*

RELATIVE HARDINESS OF CERTAIN SMALL FRUITS.

The severe and continued cold of the past winter seems to have severely tried the endurance of many varieties of small fruits in this vicinity. Among strawberries Charles Downing, Kentucky, Bidwell, Miner's Prolific, Sharpless, Crescent, and, we may add, Big Bob, seem to have withstood the ordeal perfectly, even where left unprotected by the drifting away of the covering of snow; while, under similar circumstances, Champion, Triomphe de Gand, Finch's Prolific, Crystal City, and a long list of others, both old and new, are badly injured and in a few instances nearly annihilated.

The red raspberries, including the new varieties Hansell and Superb, have almost invariably escaped injury at least at the lake shore; although we cannot say as much of the cap varieties, some of which are somewhat injured. Shaffer, New Rochelle and Caroline, which are reputed hybrids between the reds and caps, are to all appearance unharmed, and the same is nearly or quite true of Davison's Thornless. Souhegan, Tyler, Ohio and Mammoth Cluster; but we regret to say that the new popular favorite. the Gregg, is open to considerable complaint in this respect.

We went carefully through our trial plantations of blackberries after growth had well started, and noted their condition as follows:—

Ancient Briton—Nearly untouched.
Brunton's Early—Badly injured.
Crystal White—Killed to the snow line; same last year.
Dorchester—Slightly injured.
Early Harvest—Killed to the snow line; same last year.
Knox—Considerably injured.
Kittatinny — Considerably killed back.
Lawton—Considerably injured.
McCracken—Slightly injured.
Missouri Mammoth — Slightly injured.
Snyder—Entirely uninjured.
Stayman's Early—Slightly injured.
Stone's Hardy—Entirely uninjured.
Taylor (Prolific)—Uninjured.
Wachusett Thornless—Uninjured.
Wallace—Nearly uninjured.
Western Triumph—Uninjured.
Wilson's Early—A good deal killed back.

We set a few trial plants, a year since, of the brownish pink blackberry, of which samples were sent to the *Farmer* by Mr Parrish, of Barry Co., last season. These made a fair growth last season, and came through the winter entirely uninjured. The plants made a moderate growth last year and are producing fruit this season. The wood as well as the fruit is very light in color.

Snyder, Taylor, Stone and one or two others will set a full crop of fruit this season, while Early Harvest and Crystal White do not show a live fruit bud.

Bartle, Mammoth and Lucretia dewberries are set for an abundant crop of fruit, as they were, of course, out of

harm's way, under the snow, during the winter. Last year we hoped for something from them but they produced "nothing but leaves."—T. T. Lyon *in Michigan Farmer.*

THE CLIMBING SOLANUM.

(*Solanum Jasminoides.*)

The climbing Solanum is a slender growing vine having pretty foliage. It supports itself by curling the stems, to which its leaves are attached, about whatever it comes in contact with. During summer my plant made a growth of over six feet. It did not bloom until fall, but since then it has had flowers nearly all the time. These flowers are about as large as those of the Catalonian Jasmine, star-shaped, and of a pearly white. Sometimes they have a slight lavender tinge, and in a few I have seen a faint rosy tint. These flowers, which are borne in clusters of about half-a-dozen each, have a delicate grace that I have never seen in any other climbing flower. The petals have a look like that of the finest crape, being creased or wrinkled like crape along the center. I find that by cutting it back often a great many branches can be made to grow, and all of these produce flowers.

It has been one of my most satisfactory plants during the winter. I have it trained up a large Oleander, and it has wound itself all through the top, and as both plants are in bloom at present, the effect is charming, as the contrast between the rosy flowers of the Oleander and the white ones of the Solanum is so decided. A good many of the new branches hang from the branches of the Oleander in festoons of graceful foliage. The buds are charming before they open, being pearly white, and having so close a resemblance to berries that they are often mistaken for them. The plant is a most satisfactory one at all stages and seasons. It would be very effective when trained along conservatory rafters, or about a window, I think. Mine is potted in ordinary garden soil made light with sand. It requires considerable water. The red spider would trouble it somewhat if I did not make it too wet for him.—E. E. Rexford, *in the American Garden.*

THE PLUM ORCHARD IN MAINE.

I send you a description of Mr. Sharp's plum orchard. The orchard comprises fifteen hundred trees, covering one and one-quarter acres. Two-thirds of the trees are tender varieties (for here), Bradshaw, Columbia, Green Gage, Imperial Gage, Lombard, Magnum Bonum and McLaughlin, which will not live one winter here without bending down. They were planted out in 1877 before the Mooer's Arctic had been thoroughly tested, the remaining five hundred are Mooer's Arctic, most of which have been set out since, and yet these five hundred bore more last year than the other thousand by considerable. There was picked from this orchard last season three thousand five hundred pecks, which were sold here at one dollar per peck, besides what were given away, and quite a number that walked off in the night. He has another orchard just coming into bearing which yielded six hundred pecks, and one hundred more out of the nursery of trees that will be sold this spring, making in all four thousand two hundred pecks—a net profit of over four thousand dollars in one year. Although the Mooer's Arctic plum will live here and bear a good crop without bending down, if kept in grass ground and grown slowly, yet we find it far more profitable to put them on rich ground, and bend down.—*Home Farm.*

HOW THE CHILDREN ANALYZED A DAISY.

'Twas the afternoon of a summer's day,
The air was fragrant with new-mown hay,
The fields where the scythe had not passed over,
Were covered with buttercups, daisies and clover.
And then, from the midst of the flowers so gay,
Came jubilant voices of children at play.

But every delight was unheeded by me,
As I sat at the window with Gray's Botany;
A poor little daisy I rudely dissected,
And then through a microscope closely inspected,
Then turned to my book and endeavored to see
My way through the mazes of "compositæ."

Swiftly the afternoon hastened away,
And the children, all weary and warm with play,
Came pressing around me their treasures to show,
And asking what auntie was studying so.
My quiet was over, that surely was plain,
But my afternoon's labor had been all in vain.

Slowly I lifted my poor aching eyes
From the mystical words of the botanist wise,
Lifted the flower where in fragments 'twas lying,
Threw it out of the window, then hopelessly sighing,
I turned and then giving pet Mabel a kiss,
Said, "My dear, can you tell me what a daisy is?"

"A daisy!" cried Mabel. "A daisy," cried all,
Their pitying wonder how well I recall!
Then Mabel informed me, all glowing and flushing,
Her sweet childish prattle to low whisper hushing,
That daisies were children of fairies at play,
And they wore their best dresses of white every day.

"Ho, Ho," shouted Tommy; then quicker than thought
A wonderful work in a daisy was wrought—
He seized my best scissors, the mischievous fellow,
And clipped the white petals quite close to the yellow,
All the petals but two, which he left in one place,
And then in the center he marked out a face.

"See there!" shouted Tom. "In each daisy I see,
There is waiting a little old woman for me."
And there, to be sure, was a snowy cap border,
With strings hanging down as if just made to order,
With the little round face, with complexion so bright,
Made the whole, I assure you, a comical sight.

But while I was laughing at Tom's piece of fun,
Gentle Annie came forward, our slow, dreamy one—
"Why, auntie," she cried, with accents appealing,
"I thought they were fortune-tellers, revealing
Wonderful secrets delightful to know—
Don't you remember, you said it was so?"

Ah, yes! I remember that morning full well,
And the beautiful fortune the daisies did tell;
And how in the evening was brought me a letter,
Which told the same story in language far better;
So I said, as I carried my text-book away,
"The children are wiser than you, Dr. Gray."

Christian at Work.

Forestry in Japan.—The Japanese native papers are crying out against the extinction of the lacquer industry of the country. The tree from which the varnish is obtained is disappearing. Formerly, like the mulberry tree, on which the silk-worm feeds, it was protected by law. Each family of the upper classes was obliged to rear one hundred trees, the middle classes seventy, and the lower classes forty. Since this law fell into desuetude the cultivation of the lacquer tree has rapidly declined. The trees were cut down without care, and none were planted to replace them, so that they have become exceedingly rare, while the price of lacquer has enormously increased. Similar complaints, too, are heard of the process of disafforestation going on in Japan since the ancient law which required every one who cut down a tree to plant two in its place was abolished.—*Farmer and Fruit Grower.*

Perpetual Pelargonium Grandiflorum.—Among the many classes of pot-plants grown in greenhouses, the Pelargonium tribe does certainly occupy one of the first places, on account of its handsome flowers, as well as the great variety of color. The greatest fault with them, so far, has been that the period of their flowering is so short. This imperfection seems now to have been overcome by Mr. Vanden Heede, of Lille, who, by artificial crossing of *P. Gloire de Paris* and *Gloire de Crimee*, has obtained a variety which is constantly in bloom. The flowers are large and of good form, the lower petals light vivid pink, the upper ones darker and spotted deep purple, center white. The foliage is well formed and light green. It is evidently a grand acquisition, competing with the Zonals, with which it is desirable that it should be crossed in the manner Mr. Wills has crossed them with *P. peltatum*. To the intelligent experimenter there is a wide field open in this direction.—Jean Sisley, Lyons, France, *in American Garden.*

PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPP, CLARK & CO., COLBORNE STREET, TORONTO.

THE NEW

WHITE GRAPE NIAGARA

This new purely native White Grape is a cross between Concord and Cassady. Hardy, as strong a grower as Concord; earlier and far better in quality. Bunches large and uniform, very compact, sometimes shouldered. Enormously productive, a four-year old vine producing 140 clusters, weighing from [illegible] ounces each. Selling in various markets at 25 to 50 cents a pound, and at that [illegible]. The most desirable white grape

THE

Canadian Horticulturist.

VOL. VII.] DECEMBER, 1884. [No. 12.

THE NIAGARA GRAPE.

It is now almost five years since we called the attention of readers of the *Canadian Horticulturist* to this grape. In the January number of the third volume, 1880, we gave the history of its origin, and such information concerning its characteristics as we had been able to gather from our own limited observation and the testimony then obtainable. Since then vines of this grape have been greatly multiplied by propagation, and sold under stringent restrictions, which prevented the purchaser from propagating it himself, or disposing of cuttings or plants to any one else than the company from whom the purchase was made. Nor was it possible even under such restrictions to obtain one or two vines; only those who purchased largely for vineyard purposes could get them.

The public were this fall taken greatly by surprise to learn that vines could now be procured in small quantities through any of our nurserymen and dealers in grape vines, to be delivered in the spring of 1885, without any restriction whatever. We are not in possession of the reasons which have induced the proprietors thus suddenly to throw open the grape to the public; but, whatever these may be, it is of little consequence so long as purchasers can obtain the vines for their small graperies without being burdened with special stipulations.

We have no experience with the Niagara grape that we can give our readers. Not being growers of grapes for market, we had no occasion to plant a vineyard of Niagaras, and, being excluded by the policy of the company from purchasing a small number, have never become the owner or possessor of one of the vines. The only information we can give is solely from the testimony of others. Some vineyards of this variety have been planted in Ontario, mostly, we believe, in the vicinity of Grimsby. There is one also as far northward as Lindsay, in the County of Victoria; the property of Mr. Thos. Beall, one of the Directors of the Fruit Growers' Association. Some of these vineyards produced some fruit this past autumn, probably their first bearing season. Mr. Beall's opinion may be gathered from what he says of it in the October number of the current volume, page 232.

From all that we can gather it seems certain that the Niagara will ripen its

fruit well in a large part of Ontario, coming to maturity earlier than the Concord. The size both of bunch and berry should satisfy those who value grapes in proportion to their size, which is the case with many purchasers of fruit.

The colored illustration in this number, for which we are indebted to the Niagara Grape Company, will give our readers a much better idea of the handsome, showy appearance of a well-grown bunch than any description. As to flavor and quality it will exactly suit those who relish considerable muskiness or native aroma. It is sweet and rich. Like most of our native grapes of the labrusca family, it is at its best when it is first ripe; keeping does not improve the flavor, but on the contrary injures its sprightliness.

It seems also that it is very productive. We have seen it stated that 580 vines of the Niagara grape planted in the spring of 1879 yielded in 1882, by actual weight, 7,692 pounds of grapes. Thirteen pounds of grapes to the vine on an average is a very satisfactory crop.

We believe that this grape is well worthy of trial, and that it will give very general satisfaction. We shall plant a few vines of it, and, if spared to see its performances, shall inform the readers of the *Canadian Horticulturist* of its adaptation to this locality. Meanwhile it is to be hoped very many will test it for themselves and give our readers their experience, so that the question of its suitability for general cultivation in Ontario may be fully settled.

THE END OF THE YEAR.

How fast the months go by! It seems but yesterday that we tendered to the readers of the *Canadian Horticulturist* our New Year greetings. To-day we hand you the last number for the year. Our endeavor to give you from month to month the latest tidings of the horticultural world, coupled with such suggestions as the experience of cultivators could furnish, is before you. The kind expressions of satisfaction received from many, tell us that our endeavor has not been wholly in vain. We wish that these monthly issues had been more full of useful matter, and feel almost constrained to promise that they shall be in the future. But it is not the privilege of any one man to possess all the knowledge there is even on horticultural matters. If our readers would only write more fully of their experience for publication in their journal, then we could promise, most certainly, that your monthly shall be much more interesting during the year to come than it ever has been. Will you not have the kindness to give to others the benefit of your experience? It may not seem to you to be worth much, but it may be just what will help some one who is growing discouraged in his work. To you these experiences may seem as footprints in the sand, and yet shall be

> "Footprints, that perhaps another,
> Sailing o'er life's solemn main,
> A forlorn and shipwrecked brother,
> Seeing, shall take heart again."

One new feature for the coming year has been very kindly promised by Mr.

Spotton, of Barrie, and one that we are confident will be received with no ordinary pleasure by many of our readers. Mr. Spotton is most favorably known as a writer on Canadian botany, and we are confident that the papers he will furnish will be read with avidity by every one who desires to become acquainted with our wild wood plants and flowers. We intend that they shall be sufficiently illustrated to make them easily intelligible to the youngest reader. These papers will constitute a series of popular instruction in elementary botany, illustrated wholly by reference to Canadian plants. It is too true that our young people are very largely growing up in ignorance of the correct names and natural affinities of our most common wayside flowers. It seems to us that some of the time now spent in our common schools on arithmetical conundrums might be better employed in the study of the forms of life with which we are surrounded, but as such matters are beyond our reach, we commend the forthcoming papers from Mr. Spotton to the attention of all, and especially of our younger readers.

The Directors of the Association by whom the *Canadian Horticulturist* is published, have decided that the subscription book be thrown aside at the end of the year, consequently old subscribers will kindly renew their subscription during this month if they wish to receive the magazine for 1885. If any numbers for the past year have not been received, they can be supplied on application. Subscribers for the coming year will be entitled to receive a copy of the Annual Report of the Fruit Growers' Association of Ontario, for the year 1884, now in course of preparation. They will be also entitled to receive whichever one of the following articles they may ask for, on remitting their subscription, viz :

A Yearling Tree of a Russian Apple ; or,
A Yearling Tree of the hardy Catalpa ; or,
A Yearling Plant of Fay's Prolific Currant ; or,
A Tuber of a Choice Double Dahlia ; or,
Three papers of Flower Seeds, one each of the Diadem Pink, Salpiglossis and Striped Petunia.

These will all be securely packed and sent by mail, post paid, to each subscriber, according as he may designate.

If you think that the *Canadian Horticulturist* is worthy of support, that the information published is of value, will you not interest your neighbors in our magazine and send their subscriptions with your own ? The usefulness of such a magazine is increased as its circulation is enlarged. It is not published for profit. Every dollar is expended in the appropriate work of the Association, namely : in collecting and disseminating information. You are requested to help in making this information more widely known. Will you not encourage and sustain the Directors, upon whom the care and responsibility rests, by your sympathy and active co-operation.

We find that Tent Caterpillars are killed by the Buhach (pyrethrum) powder, blown through bellows. It is an easy method of application, while no injury results to either leaves or branches. —*Rural New Yorker.*

MEETING OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

The Winter Meeting of the Fruit Growers' Association of Ontario will be held in London on Wednesday and Thursday, the 28th and 29th January next, in Victoria Hall, Clarence Street. The opening session will begin at 10 a.m. on Wednesday. Delegates from Michigan and New York are expected to be present.

PROGRAMME.

Wednesday, January 28th.

MORNING SESSION.

Address of welcome by the Mayor.

Reply by the President.

Discussion on new varieties of Apples.

Best varieties of Green Peas—methods of cultivation.

AFTERNOON SESSION.

QUESTION BOX.

What varieties of Winter Apples are most profitable.

Best markets for Winter Apples, and best methods of packing for foreign shipment.

Plums, most esteemed varieties, soil and cultivation.

EVENING SESSION.

QUESTION BOX.

Grapes, best varieties in cultivation, suited to Western Ontario.

Roses, best and freest bloomers, soil, culture, &c.

Thursday, January 29th.

MORNING SESSION.

QUESTION BOX.

Best varieties of Potato, and modes of cultivation.

Cauliflower, best varieties of.

What Gooseberries are most esteemed; methods of cultivation and pruning; soil best adapted to their growth.

AFTERNOON SESSION.

QUESTION BOX.

Best hardy Perennial Flowers for the garden.

Red Currants, most profitable sorts, their cultivation and treatment.

Black Currants, best varieties.

EVENING SESSION.

QUESTION BOX.

This closing session will be mainly devoted to short addresses on different subjects by members of the Association and visiting delegates, embracing among others the following topics:—Best Trees for Ornamental Planting; Dahlias; The Management of Bees; Forestry; Best varieties of Clematis, with Methods of Cultivation. Good music will be rendered at intervals.

As this promises to be a very important and interesting meeting, it is earnestly hoped that a large number of our members from a distance will make it a point to be present.

THE SIXTH ANNUAL MEETING

Of the Mississippi Valley Horticultural Society will be held in the City of New Orleans, commencing January 14th, 1885, and continuing four days. Liberal rail-road rates are offered, and already special excursions, both by boat and rail, are being organized. This meeting will be held during the World's Industrial Exposition, and in connection with the greatest display of horticultural products ever made. For full particulars, programme, &c., apply to the Secretary, W. H. Ragan, Greencastle, Indiana.

AMERICAN APPLES IN LONDON, ENGLAND.

Baldwin's were sold in the London, England, market at 14*s.* sterling to 14*s.* 6*d.*, Greenings at 15*s.*, Russets at 13*s.*, and Northern Spys at 16*s.*, this fall.

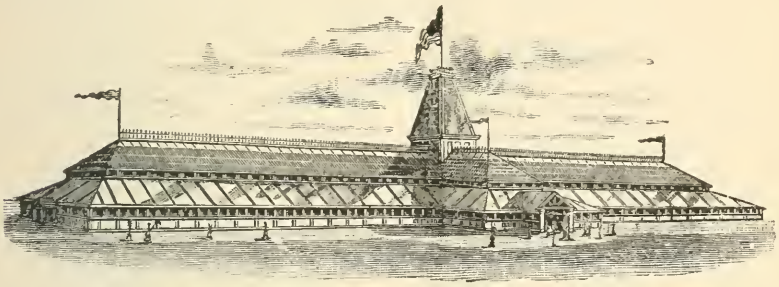
THE NEW ORLEANS EXPOSITION.

The horticultural department of this great exposition has been placed under the superintendence of the widely known, and much esteemed horticulturist, Mr. Parker Earl, whose indefatigable industry in behalf of this department has already secured for it the most extensive exhibits in its various branches that have ever been collected on this continent

The horticultural group has been divided into the following classes :

1. Ornamental Trees, Shrubs and Flowers.
2. Conservatories, and their Management.
3. Implements and Accessories.
4. Garden Designing and Construction.
5. Vegetables.
6. Fruit and Fruit Trees.
7. Seeds and Saplings of Forest Trees.
8. Gardens for Dwellings.

We give below a cut and description of



THE HORTICULTURAL HALL.

The Horticultural Hall is 600 feet in length and 194 feet wide through its centre. It is the largest conservatory in the world. It is substantially built as a durable structure, becoming by arrangement with the city a permanent feature of the Park. It is located on high ground in the midst of live oak groves. Surmounting the centre is a magnificient tower, 90 feet high, roofed with glass. Beneath this tower, in constant play, is a grand fountain. 20,000 plates of fruit, double the amount ever before displayed at any exposition, will be shown on tables extending through the hall. Around the hall will be arranged an infinite variety of rare tropical and semi-tropical plants, flowers and shrubbery. There is a tropical hothouse, 250 feet long by 25 feet wide, in which the most delicate flowers from the far South will be nurtured and made to bloom in their most brilliant perfection. Tropical fruits in their various stages of growth will be exhibited. Fruits of every section and productions of all seasons, will, by arrangements for stated supplies and thorough processes of cold storage, be available for exhibit.

The most eminent horticulturists of the United States are engaged in arranging and perfecting the display. Cash premiums to the amount of $32,000 are offered in this department, and contributions to its exhibits from Mexico, Central America, the West Indies and the different States of the Union will be unprecedently large and varied.

May we not also add our own Province of Ontario to the list of contributors ? Full information as to prizes, transportation, placing on exhibition, &c., can be had on application to any of the Directors of the Fruit Growers' Association of Ontario.

Doubtless many will visit this Exposition from Ontario. To intending visitors we may say that in order to prevent visitors to the World's Fair from being over-charged, the Exposition management will make a thorough canvass of New Orleans, and enter in a book the names of all persons who desire to keep lodgers or boarders during the season. Any person charging more than the advertised rate will have his name struck from the Exposition register. This service will be entirely free.

NOVA SCOTIA APPLES

Were sold in London, England, this fall at good prices. Ribston Pippin brought from 17*s.* sterling to 25*s.* 6*d.*, Blenheim Orange 17*s.* 6*d.* to 20*s.*, King of Tompkins 20*s.*, Gravenstein 15*s.* to 18*s.* Buyers were well satisfied with the quality and condition, and the demand at the above prices was brisk.

QUESTION DRAWER.

Mr. Editor,—Is there such a nursery in Toronto as the Dominion Nurseries? If so, who is the proprietor?

Shedd and Parks claim to be the general agents of that nursery in the State of Indiana. Your early reply will oblige,

S. J. M.

Auburn, Indiana.

Reply.—We do not know any such nursery. Will our Toronto readers please enlighten us.

1. Is it advisable to lay down hardy grape vines in winter?

2. Is wire preferable to wood for trellis, and how high should trellis be made?

3. Name six or eight best varieties for our locality, soil a clay loam.

H. Bodwell.

Mt. Elgin, 17th Nov., 1884.

Reply.—1. It is advisable to lay them down. 2. No, it is purely a question of convenience and economy. 3. Agawam, Brighton, Concord, Delaware, Early Victor, Jessica, Lindley, Wilder.

RUSSIAN MULBERRY.

Mr. Editor,—Will you have the kindness to give the readers of the *Horticulturist* some information with reference to the pruning of the Russian Mulberry? I find the habit of the young plant is to throw up several shoots from the root. In transplanting to where destined to remain, would you or would you not recommend the training up of a single stem to form a trunk for the tree?

Respectfully yours,

J. Knowlton.

Reply.—It should be trained to a single stem.

CORRESPONDENCE.

REPORT ON FRUIT.

Union Exhibition, Cobourg, October 14th and 15th.

On arriving at the Fair grounds on the 14th, I found the Directors in session, filling up vacancies in and arranging the Judges lists. I was requested to act as one of the judges on fruit. The other two judges were found immediately. We went to work at once, and none too soon, for on arriving at the hall we found a very large display of fruit, the judging of which kept us busily employed until evening.

The next morning I waited until my patience was exhausted for friend Dempsey (who had promised to assist me), and then went to work alone and took notes to enable me to furnish the following particulars respecting this really excellent fruit exhibition:—

Twelve varieties of apples, four of each named. The first prize lot consisted of twelve varieties only, all excellent specimens, and all named correctly. The second prize lot consisted of twenty-three varieties, containing many good specimens, but a larger number of in-

ferior ones, and several of the varieties were mis-named. The third prize lot consisted of fifteen varieties, some of which were mis-named, and nearly all lacked in color. The fourth lot consisted of thirty varieties. There was not more than four or five fair specimens in this exhibit. All the others were inferior in quality, and many of them improperly named.

Snow, fourteen exhibits, and all of prime quality.

St. Lawrence, eight exhibits. These were all of extraordinary size and most beautifully colored.

Holland Pippin, seven exhibits. Very good samples.

Maidens' Blush, three exhibits. It would be difficult to find anywhere two plates of such beautiful specimens of this variety as those obtaining the first and second prizes. The third lot exhibited as Maidens' Blush had the same delicate coloring, and in addition had numerous black specks over the whole surface. Below medium. Conical.

Other varieties Fall Apples, ten exhibits. All splendid samples. The first prize had been awarded to a plate of well grown Gravensteins.

E. Spitzenburg, five exhibits. All good samples, with one exception, which was badly spotted.

Baldwin, eight exhibits. All very fine.

R. I. Greening, eight exhibits. All extra good, but one plate, which were not Greenings.

Northern Spy, nine exhibits. All beautiful specimens.

Russets (without distinctive appellation), ten exhibits. All good samples. Prizes given to the largest.

Other varieties Winter Apples, eight exhibits. All well grown and perfect samples.

Crab Apples. All Hyslops, and, as usual, all alike.

Collection of Pears, three of each, named. The first prize was awarded to an exhibit consisting of the following twenty-one varieties:—Souvenir du Congrès, Flemish Beauty, Louise Bonne de Jersey, Josephine de Malines, Bartlett, Beurre Bosc, Beurre Gris d'Hiver, Winter Nelis, Huguenot, Buffam, Duchesse d'Angouleme, Belle Lucrative, Dr. Reeder, Seckle, Howell, Kingsessing, Lawrence, Vicar of Winkfield, Beurre Clairgeau, White Doyenne, and Beurre d'Anjou. The second prize lot contained the following varieties in addition to some of those named above, viz.:—Prevost, Blanc-per-ne and Graslin.

Collection four varieties, three of each, named. First prize to Graslin, Belle Lucrative, Flemish Beauty and Beurre Clairgeau. Second prize to Beurre Clairgeau, Vicar of Winkfield, Duchesse d'Angouleme and Howell. All of the foregoing were excellent samples.

Flemish Beauty, six exhibits, four of which were well grown.

Duchesse d'Angouleme, four exhibits. Moderate.

Louise Bonne de Jersey, two exhibits. Both inferior.

For the prizes for Fall and Winter Pears there were twelve exhibits, all well grown, but no variety different from those already mentioned.

Grapes, six clusters, open air, three exhibits. Two of which were very fine. The first prize was awarded to a lot containing seventeen varieties as follows:—Lindley, Clinton, Delaware, Champion, Martha, Hartford Prolific, Agawam, Creveling, Early Dawn, Diana, Ives' Seedling, Salem, Concord, Iona, Brighton, Israella and Rogers' No. 4.

Special prizes of five dollars each had been offered for the best barrel of Northern Spy and of Ribston Pippins.

The prize apples to become the property of the person offering the prize in each case. This prize was well contested, there being four or five barrels competing for each. One of the competing barrels for the Ribston Pippin prize was not of that variety.

All the in-door portion of this Exhibition was well conducted, and reflected much credit on the Managing Directors.

Respectfully submitted,

THOS. BEALL.

Lindsay, Nov. 1st, 1884.

SHEPHERDIA ARGENTEA.

DEAR SIR,—Thanks for the *Canadian Horticulturist*, Nos. 9 and 10, now received. Some time ago I received a letter from you, asking about the locality of the Shepherdia argentea or Buffalo berry. Ever since 1876, I have been looking for it, and never found it until this season. As far as I have observed it finds its eastern limit about Walhalla, on the steep banks of the Pembina River. It is spoken of as the future hedge shrub of the North-West. Its narrow silvery leaves and edible, acid scarlet fruit (like red currants), mark it as a tree or shrub worthy of introduction into the ornamental grounds of Canada and the Eastern States. Its sweet scented flowers (if like the S. Elæagnus argentea) and scarlet berries make it an object of interest in grounds, borders or hedges. It abounds here and on the Upper Missouri, and has been introduced into Minnesota. It attains quite a size in the ravines of the Yellow Stone. Prof. Macouin speaks of the berries as the most suitable for preserves of all the small fruits of the North-West. Its long, sharp, partly concealed spikes, make it a terror to beasts of all kinds The Buffalo berry, its common name, is a contrast to its near relative the Silver berry. The fruit of the one is small, the other large; the one scarlet, the other white and silvery; the one strongly acid, the other a mealy sweet. The contrast is as great as between the fruit of the Pembina berry (Viburnum Opulus, Cranberry tree) and the Sheep berry (Viburnum Lentago), both very common on the banks of the Pembina River. The town of Pembina on the Red River gets its name from the V. Lentago.

One of the most abundant berries here is the Amelanchier Canadensis (Shadbush, June berry or Service berry), the famous Satcatoom of the Indians. It extends from the Red to the Peace River, and is universally eaten by bears, half breeds, Indians and settlers. It is said to be the healthiest berry in use in Dakota. It has marked medicinal qualities. On the Laurentian Range, in the back woods of Canada, they are used for pies by the settlers, under the name of "Sugar Plums." In Canada I never saw them in such quantities as out here.

I enclose for you seeds of the Amorpha canescens (Lead Plant), and Petalostemon violaceum (Prairie Clover), both perennial herbs, and distinctly marked in dry parts of Western prairies.

If you wish I can send you seeds of Shepherdias mentioned above.

Ever truly,

JOHN SCOTT,

Presbyterian Missionary,
Formerly of Emerson, Manitoba.

Walhalla, Dakota, U.S.,
Oct. 31st. 1884.

The Editor gratefully acknowledges the receipt of the seeds enclosed, and would be greatly obliged to our correspondent if he would not only send us some seeds of S. argentea, but express to us in the Spring at our expense some of the plants.

REPORT ON PLANTS RECEIVED.

Mr. Editor,—I will try and report on the plants, &c., I received from the Fruit Growers' Association. First year, 1881, received one pound of the Dempsey potato; planted in strong clay loam, well manured; yield, thirty-seven pounds. Second year, ploughed them into clover sod, well manured; result, more than half the sets rotted; dug only three pecks of sound potatoes. The mistake was that it being a wet season they should have been planted on top. Third year, ploughed them into sod on sandy soil, without manure, but top-dressed with ashes. I got nice clean potatoes; they are not so mealy as the Rose; the flavour is much stronger and the yield is no better than the Late Rose, and not so good as the Elephant.

The Moore's Early grape vine I received grew well and was hardy; but in moving I had to leave it, so that I cannot say more about it.

In 1883 I received one plant of Niagara raspberry; it sent up one small shoot; it bore some fruit; the flavour is good; must give it another trial.

If this report is of any service you may publish it.

Your humble servant,

Wm. Copeland.

Hespeler, Ont.

CODLIN MOTH.

Dear Sir,—I have tried the Paris Green remedy for the apple worm with good effect. The experiment was tried on a Grimes Golden when the apples were the size of small peas. I sprayed the tree with two teaspoonfuls of Paris Green to one pailful of water. The tree for its size bore a heavy crop, about six bushels.

The experiment proved most satisfactory. I only detected eight apples that were bored. Other years fully one-half would be bored, being worse than any other tree I have.

Could you give information through the *Horticulturist* where a suitable syringe can be got for a large orchard?

Yours, &c.,

John McLean.

Owen Sound, Nov., 1884.

Reply.—See p. 15 of this volume.

HYDRANGEA PANICULATA GRANDIFLORA.

Dear Sir,—In answer to the enquiry as to the hardiness of the Hydrangea paniculata grandiflora, I beg to say that there is little doubt but that it will prove hardy in all parts of Ontario. I have had a bed of it planted out for the past three years without any protection whatever, and every fall it is a mass of bloom. To have it in perfection it should be liberally fed; plenty of rotten stable yard manure dug in will cause it to throw up strong shoots, and the stronger the growth the finer and larger the panicle of flowers will be.

With me it ripens up its wood perfectly, and dont seem to have suffered any from last winter's cold, although the mercury touched 40 below zero. Any plant that will stand the arid climate of the Guelph district, will, I am confident, stand anywhere in Ontario.

Yours truly,

James Goldie.

Guelph, Oct. 23rd, 1884.

WEST SIMCOE FRUITS.

I visited the West Simcoe Agricultural Show held in Barrie, and was kindly permitted to examine the fruits previous to the opening of the hall to the public. The show was, without exception, the best ever held in Barrie. The fruits, to which I paid more particular attention, were very fine. The Duchess of Oldenburgh, the St. Lawrence, and also the Alexander, were all

splendid specimens in the Autumn class. The Wealthy, shown by Mr. A. Hood, of Barrie, were fine fruit. The Duchess, St. Lawrence and Alexanders were considered to be superior to those shown at the Exhibition in Toronto. A fine display of Pippins, Snows, Rhode Island Greening, American Golden Russet, Maiden's Blush, King of Tompkins, Baldwins, Northern Spy, Colverts, Bellflowers, Kentish Fill Basket. Also the collections of fruits were very creditable indeed. The Crab Apples were good, especially Byers Beauty, which excelled in quality and appearance. The Pears, the Flemish Beauty, were large and good, although they were scarce, as there were only three or four lots on exhibition. The grapes shown by Mr. Edwin Crompton would be difficult to excel, they were grown under glass; Hamburgh Muscat and White Chasselas, and some others. The open air Grapes were Agawam, (Rogers' No 15), Salem (No. 22,) and Delaware varieties. They were all that were worthy of notice.

Yours truly,

CHARLES HICKLING.

Barrie, Oct. 28th, 1884.

DEUTZIA CRENATA, FLORE PLENO.

(*For the Canadian Horticulturist.*)

For the information of those who have planted the Deutzia Crenata, I will give my experience with it, after growing it for some seven years in the County of Middlesex. When in blossom it is a beautiful shrub, well represented in the colored plate in the November number. It is a good grower, requiring no extra care in its cultivation, but it is not sufficiently hardy to withstand the severity of winter in this section unprotected; yet it is so nearly hardy that a very slight protection is sufficient. For when unprotected the tops would be killed, but it then sprung up from the roots as vigorous as ever. As the branches grow slender, something like a willow, I simply bend them down as close to the earth as I can, and cover them with straw and a little earth. Treated thus they come out alive and healthy in Spring, and in June they are literally covered with blossoms.

JOHN M. MCAINSH.

Nissouri, Middlesex, Ont.

FIELD MICE.

DEAR SIR,—I beg to state for the information of all concerned, that common bitter aloes, dissolved in boiling water, applied when cold with a paint brush from the surface as high as the snow is likely to be, shaking some from the brush on the surface soil around the trees, if there is any withered grass near them, I have found a *sure remedy* for field mice. There was not a solitary tree of 200 that was injured by field mice; and this I accomplished in one day, leaving the city by morning train for St. Mary's, and returning by last train.

Yours respectfully,

JAMES LOGAN.

London, Nov. 12, 1884.

P. S.—I trust this information is in time to be of some service for this winter. J. L.

AMERICAN WONDER PEA.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

DEAR SIR,—So suitable to your sheet, and so excellent is the letter of friend Hoskin in your November number, that we think he had no need to preface it with any apology.

I feel sure most of your readers perused it, as I did, with much interest.

Just in one item *I can't agree to differ* with him, that is, in his opinion of Bliss' American Wonder Pea. When he says he prefers Carter's Little Gem to it, he differs so much in opinion

from *the many*, I am at a loss to account for it; but as there was a great deal of spurious seed of the American Wonder in the market, I have come to the conclusion, he has fallen in with some of it. To many of our members I have given a sample of the pure thing, and have had from them very different reports from his, and have now pleasure in sending him a seeding of what I know to be the genuine article, with the request that he will give *it* a fair trial and *us* an amended report. I have tried most of the favorite kinds (Carter's Little Gem among the rest), but till I know of a better will sow no other pea than the American Wonder.

Yours sincerely.

JOHN CROIL.

Aultsville, 17th Nov., 1884.

FRUITS IN MANITOBA.

The list appended shows the varieties of wild fruits growing in the different counties and the number of townships reporting them. These varieties are strawberries, black and red raspberries, black and red currants, high and low bush cranberries, saskatoon berries, gooseberries, red and black cherries, red plums, hazel nuts, blueberries, grapes, whortleberries, and juneberries. Some grow in almost every township, while others are rarely reported. As a general thing, fruits of the ordinary varieties were abundant during the season, and those of the berry varieties were decidedly plentiful in all quarters. Among the varieties of fruit cultivated, the principal ones are currants, gooseberries, strawberries, apples, plums, raspberries, and crab apples. Of these, currants, gooseberries and strawberries are the most extensively grown and with the most success. Apples have been tried in a number of places, but have not been so successful, owing doubtless to the fact that the trees have generally been selected from more southern latitudes. On this account the experiments to be made with the apples now being imported from Russia will be watched with interest. Raspberries, though not so extensively cultivated as gooseberries and strawberries, have been grown with encouraging results. Plums, grapes and crab apples do not appear so widely spread or so successfully grown. The dry weather of the early part of this season very materially affected the growth of the fruit crop.

SHEEP DESTROYING THE CURCULIO.

In comparing the results of orchards pastured with sheep and those pastured with hogs, the sheep have been found much the better animals for this purpose. They eat all the fallen fruit, large and small alike, and leave the ground undisturbed, while the hogs leave many of the smallest apples undevoured and root up the ground into a very rough and undesirable condition unless prevented by rings or some other taming contrivances. This is a very important consideration in pasturing a plum orchard, as every disturbance of the soil promotes the growth of suckers until the orchard becomes a thicket. Sheep should not be allowed in the orchard except during the fruit season, and should be well fed, else there is danger of their gnawing the bark from the trees and ruining the orchard.—*Farmer and Fruit Grower.*

THE RANCOCAS RASPBERRY.

This red raspberry, now being sent out by Wm. H. Moon, of Pennsylvania, is said by Albert Hansell, on whose farm it was first discovered, to be a chance seedling. "I found," says Jas. Hansell, "the Rancocas in a most unfavorable spot, surrounded by briers, and in every way neglected. Its vigor, size and productiveness led me to transplant it.

The bush starts late in the spring, when it branches freely, giving it the form of a minature tree. Our farm, like many in New Jersey, has quite a number of those peculiar unproductive spots or patches, where little or nothing can be grown; but the Rancocas, when placed thereon, has pushed ahead vigorously. The first season the plants have been cultivated like any other farm crop. The second year the plantations have been plowed once, early in the spring; after that, the cultivator is run through once or twice in May, and then the plants are left to care for themselves. The plant suckers freely, and so vigorous is it that it effectually smothers the quack grass that would otherwise overrun our ground. We do not head the suckers, or even trim out the old fruiting canes during the summer; but in the fall, after the rush of work is over, we go through and cut out the old canes and thin out the suckers, leaving only sufficient for the next season's fruiting. The canes left for fruiting are then headed about two and a half feet from the ground. It is the busy man's, if not the lazy man's berry. As regards its productiveness, I have no hesitation in stating that on the same soil and with the same care, it will produce twice as many quarts per acre as the Brandywine. The bushes have never been in the least injured by the severest winter weather, and the foliage has never shown a trace of yellow, scald, or burn."

The berry is said to be large, of good quality, bright red in color, and an excellent shipper, and has never been known to winter kill.

Abner Hoopes says of this fruit; "On the first day of July I visited the farm of the Messrs. Hansell, near Beverly, N.J., and saw the new "Rancocas" raspberry growing in all its glory. I was particulary struck with the healthy foliage and vigor of the plants, notwithstanding the dry spell they had just passed through. For size, quality, good color, firmness, and productiveness, I do not think it can be excelled. From what I saw of the cultivation, or rather non-cultivation, I think it has been justly styled the "busy man's berry," as well as the "lazy man's berry."—*Prairie Farmer.*

THE PARRY STRAWBERRY.

No other class of strawberries combines probably so many desirable qualities as the strain originated by Mr. E. W. Durand, and best known by Jersey Queen, Prince of Berries, and others. To this is now added another variety, which, while it possesses all the excellent points of its parent, the Jersey Queen, has the other great merit of being perfect flowered, and therefore not requiring another kind of fertilization.

The Parry was raised in 1880 by Mr. Wm. Parry, of New Jersey, from seed of the Jersey Queen, and the following year it yielded already handsome fruit, which was awarded a premium at the Moorestown Strawberry Fair. After harvest, the unprecedented heat and drought destroyed almost every variety in the same plot except this, thus showing its hardiness, vigor, and drought-resisting powers.

The plant is a rank, vigorous grower, with clean foliage and perfect blossoms; berries, obtuse conical, very large, uniform in size and shape, bright, glossy crimson, firm, of best quality, and ripening evenly. It was originally named "Junior Queen," but at the suggestion of the Hon. Marshall P. Wilder, it was changed to "Parry," under which name it is now introduced.

Mr. Durand, the originator of the Jersey Queen, after growing it on light and heavy soils, considers it the most valuable strawberry that has yet appeared before the public.—*American Garden.*

THE BEST VEGETABLES.

N. Y. AGRICULTURAL EXPERIMENT STATION.

Among the most frequent of the questions asked by visitors, in looking over our vegetable garden, is, "Which is the best variety?" Now, best is a word which covers many diverse qualities, as those peculiar qualities which render a vegetable the best for the kitchen garden are often quite different from those which would recommend it to the market gardener. For example, take the pea: in the kitchen garden we desire a variety that matures its crop gradually, and which furnishes its crop in frequent pickings. In the market garden, on the other hand, it is very desirable to have a variety mature its crop at once, so that the vines may be quickly removed to give place to other crops.

In this Bulletin, therefore, we offer a list of varieties suitable for the farm garden, as gained from our experience.

Commencing with lettuce; a variety which becomes early fit for use, is slow in running to seed, which retains its tenderness and sweetness well, and forms a large and compact head, is the Large White Stone Summer. Quite a number of other varieties combine these qualities in scarcely less degree, such as All the Year Round, White Chavigny, and The Deacon. With those who like novelty, the Prize Head, which is curled and tinged with red, The Marvel, of a rich, deep, glossy red, and the Golden Spotted, will find admirers.

In the pea, we would recommend for first early, one of the popular "First and Best" strains. The old Philadelphia, Kentish Invicta, or Daniel O'Rourke, will often prove nearly or quite as early. These are all smooth peas, and though excellent for a beginning, should soon give place to the wrinkled sorts, first of which we would name The American Wonder. Following this, a number of varieties may be recommended, all of which are of acknowledged excellence. The Champion of England, as an intermediate pea, is scarcely excelled in quality and productiveness, though it requires bushing, which with some is an objection. Among the excellent dwarf intermediates we may name Pride of the Market, Stratagem, Market Garden, and Hair's Dwarf Green Marrow. These are sufficiently dwarf to succeed pretty well without bushing, though it is better to bush when convenient to do so. For a late pea, McLean's Premier, although a tall variety, possesses the important quality of yielding its crop very slowly. Last season it continued to yield peas fit for the table for thirty-three days in succession, in which respect it was surpassed by no other variety tested.

In beets, we name the Egyptian for both early and late use. It is very early, excellent in quality, productive, and keeps well.

In carrots, the French Forcing seems desirable for early use, and the "half-long" sorts, or the Long Orange may be named for late or winter use.

Among parsnips there is little choice. To those who desire to use this vegetable during the autumn months, the Turnip-rooted is recommended, but for spring use the Hollow Crown is in season.

Among turnips, the Purple Top Strapleaf and Jersey Navet have proved excellent for autumn or for early winter use; for late winter or spring use the White or the Bloomsdale Ruta-Baga. We mention these varieties because they are nearly or quite free from the strong bitter flavor, characteristic of so many turnips and ruta-bagas.

In onions we would recommend onion sets for early crop. Among the earliest varieties that may be grown from seed,

we would mention Well's Extra Early, and Extra Early Red. To those who desire a very mild onion, we recommend the White Portugal, a variety that is productive and keeps well. The Red Wethersfield and Yellow Danvers are productive and of excellent keeping quality, but the former is a little strong flavored.

In cabbage we name Early Wakefield. Nonpareil, and Early Oxheart for

Early Wakefield.

earliness. Winnigstadt and Schweinfurth for intermediate, and Premium Flat Dutch for late and for winter use.

Of cauliflowers, Erfurt Early Dwarf seems the best for early use, and the

Early Dwarf Erfurt.

Imperial Large White French and Le Normand's Short Stemmed for late.

Of tomatoes, the Alpha gave the earliest supply for the table last season. Livingston's Favorite is very smooth and of excellent quality. The Mayflower may be also mentioned, and it

Mayflower.

would be difficult to decide between these in point of quality.

In squashes we have found the Per-

Perfect Gem

fect Gem and Canada Crookneck very hardy, productive, and of easy growth;

the former keeps well, and when fully ripe, is an excellent squash, but the Hubbard, Butman, and Essex Hybrid would be preferable to either of these, were they not so liable to be destroyed by the borer.

In celery we have as yet tested no variety which we would prefer to the Boston Market.

Of cucumbers, Tailby's Hybrid has proved reliable, and is of excellent quality. Early Russian and Early Cluster are excellent early varieties, and the White Spine may be named for a later use.

The Christiana melon, among musk melons, is an excellent one ; a reliable bearer, and the hardiest of any that we have tried. Of water melons, Vick's Early has proved as satisfactory as any we have grown.

Of radishes, the Early Long Scarlet, and the Early Scarlet Turnip-rooted are excellent for early use, and the Dayton and Golden Globe for late use.

E. Lewis Sturtevant, *Director.*

NOTES ON ORNAMENTAL PLANTING.

The judicious and tasteful planting of fruit and ornamental trees enchances the value of real estate more than an equal amount of money invested in any other way. It is not necessary to have a large extent of idle land in lawn or dooryard, or expensive drives and fancy walks, in order to give a country place an attractive appearance. A plain neat yard, with a few trees and shrubs well selected and judiciously planted about the grounds, and properly kept, would often change the appearance of many a place from a neglected wilderness to that of a thrifty, comfortable home. It is not desirable to have an elaborate design to produce the best effect in small places. To give explicit rules for landscape gardening of universal applicability for amateurs to work by, would be impossible, but I offer the following suggestions, which may aid in perfecting a plan.

Most persons who have any fondness for trees or plants, when they once get started in horticultural operations, become much interested. The great secrets of success in amateur landscape gardening are, first, to become interested, then to look and study and plan and contrive. A little ingenuity is also desirable, but it is not half so formidable or expensive an undertaking to lay out the grounds and plant a small lawn as many persons imagine.

Plant a few shade trees near the house, about ten feet from it, on the south and west sides, to screen it from the mid-day and afternoon sun. These should be rapid growers, as silver maple or Carolina or balsam poplar. If these trees are planted about ten or fifteen feet from the house, they will give a very appreciable shade in three or four years, but they are not the most ornamental or desirable for permanent trees. Rapid growth is their recommendation, and they will be too close to the house to remain many years ; therefore, plant some finer varieties about twenty-five or thirty feet off. For this, there are nothing better than sugar maple, Norway maple, horse chestnut, European chestnut, ash, *Magnolia acuminata*, red colchicum maple, sweet gum, willow-leaf oak and mossycup oak. These trees should stand about thirty or forty feet apart, in order to have room to develop into perfect specimens ; but it is often better to plant at half these distances, or plant some cheaper, rapid-growing trees between them, in order to shade the place quicker, and then cut out alternate trees in a few years. There should be a vacant space directly in front of the house, affording an unobstructed view from the street or road. The trees which are necessary for shade on the front side, should be trimmed

up as they increase in size, so that there will be a view from the second-story window under their lower branches or between them.

Evergreen trees produce an effect in ornamental planting not to be obtained by any other means, and every large lawn should have an evergreen belt or hedge on one side at least. In exposed situations, a screen of large evergreens is of great value in protecting houses and out-buildings from cold northern winds. It is astonishing what a modifying influence a belt of tall evergreens, standing on the north and west side of buildings, will have in blustering, windy weather. The best varieties for this purpose are Norway spruce, hemlock spruce, silver fir, white pine, Scotch pine, American arbor vitæ and *Retinospora obtusa*. It is not always essential that they should be planted in a straight row ; it is sometimes preferable to plant in a curved or irregular line, or in a succession of clumps, so as to give the effect of a continuous green background without the formal stiffness of a hedge-row. As a general rule, evergreens do not appear to the best advantage in straight rows ; they look better when grouped in clumps, or dotted about in a rather promiscuous manner. The larger varieties should not be planted any nearer to the verge of a carriage-drive than fourteen feet. When planted in clumps, they are often set fifteen feet apart, with three or five trees of one variety together. At this distance, they will attain their perfection in about fifteen years, and will then commence to deteriorate as the branches grow together. After the large shade trees and evergreens are planted, there will be a number of smaller evergreens and flowering shrubs needed for "filling in" the blank spaces. They should be planted in clumps of from three to ten or twelve, with an occasional single specimen in the smaller nooks.

The following are a few of the most desirable dwarf evergreens : *Arbor vitæ compacta*, *A. globosa*, Siberian, Hovey's Golden, Tom Thumb, and George Peabody arbor vitæs. The last is a new golden variety of singular beauty, the hardiest and most distinct golden arbor vitæ yet introduced. *Retinospora plumosa aurea*, *R. plumosa*, *R. obtusa nana*, and *R. squarrosa*, are not naturally dwarf trees, but they can be kept so by frequent shearing. If allowed to grow unchecked they will attain considerable size. Irish, Swedish and pyramidal junipers grow tall and slender, occupying but little room. The dwarf white pine is one of the prettiest small evergreens. It forms a compact, symmetrical bush, three or four feet high and about equal diameter, presenting a dense mass of silvery green foliage. *Abies orientalis*, or eastern spruce, from the shores of the Black Sea, is a very handsome evergreen, of moderate size, and very dense, compact habit. It is one of the neatest and most symmetrical of the spruce family and appropriate for almost any situation.

Weeping trees are at present a fashionable feature in landscape gardening. The following are a few of the most desirable varieties : Weeping beech, cut-leaf weeping birch and common weeping willow grow tall and form large trees. The Camperdown weeping elm and Kilmarnock weeping willow, are dwarf trees, and never grow any higher than the point where grafted. *Abies inverta*, or weeping spruce, is the best weeping evergreen, and it is a very unique and effective tree in a lawn.

Hardy flowering shrubs develop more quickly than any other class of trees, and are therefore indispensable for filling in a new lawn, where it is desirable to get something to make a show as quickly as possible. There are also many nooks and corners that look bare at first, but which will even-

tually be occupied when the other trees are developed. Such places may be filled temporarily with some cheap shrubs, that can be thinned out or removed in a few years as the trees encroach upon them. I name a few of the more recent introductions in this class of plants, all of which are hardy, free bloomers, and desirable for general cultivation, although not yet generally known because of their scarcity. They should be planted more extensively: *Cercis japonica*, or Japan Judas tree; *Cornus sanguinea*, or crimson dogwood; *Exochorda grandiflora*; purple leafed filbert; Standish upright honeysuckle, the earliest and most fragrant variety; dwarf horse-chestnut; *Viburnum plicatum*, or Japan snowball; *Weigela hortensis nivea*, or pure white monthly weigela. The purple beech is one of the most effective trees that can be planted in a lawn, particularly where it can be seen against a background of dark green foliage.—S. C. Moon, *in Country Gentleman.*

THE ROOTS OF SOME VEGETABLES; HOW FAR THEY EXTEND.

N.Y. AGRICULTURAL EXPERIMENT STATION.

It becomes quite interesting and important, in agriculture, to know the areas of the soil within which roots feed, as it seems to be quite evident that where we know a plant is shallow rooting, that the fertilizer or manure should be kept near the surface within the region occupied by the roots; where we know that a plant is a deep feeder, or that the roots occupy principally the lower layers of the soil, it would seem reasonable to expect turning the manure deeply under, in this case, would be the preferable way. These considerations are not simply theoretical, for in agricultural experiment it seems desirable to reason out causes and effects from the best data in our possession, and then to bring our conclusions to the test of verification in field practice. In pursuance of this plan, we have washed out the roots of nearly all of our species of garden plants, and we offer in this bulletin the results noted for several of our important crops.

The system adopted was to dig a deep trench alongside the plants to be investigated, and then, by means of a hose, to bring a spray of water to bear upon the soil, and thus gradually and guardedly wash the earth away in order to discover the roots *in situ.*

In the Eclipse beet, the tap-root was traced downward a depth of nearly two feet. Branches started out from this at intervals during its entire length; no roots appeared to start out above the tap-root. The branches were traced a distance of two feet horizontally from the tap-root. The fibrous roots were very slender and delicate, and though not very numerous, extended over an area of abont twelve square feet. They often extend upwards from the branches, and in some cases appeared to reach the surface of the soil.

The Eclipse beet is of the turnip-rooted class, and grows largely above ground.

In the Long Dark Blood variety, the root system, though not different in kind from the above, was slightly more extensive. The main root in the sample examined was smooth and symmetrical for a distance of eight inches, below which it divided into several branches, which rather thick at first, rapidly tapered to the size of a stalk of timothy grass, and gradually thereafter until they became fibrous roots. One of the main roots was traced to a depth of two feet, and one of the horizontal branches a distance of two and a half feet. The small fibrous roots so often seen on the surface of beet roots seem to have very little office, as they extend into the soil scarcely more

than a quarter of an inch from their origin.

In the carrot, the root system, as compared with that of the beet is very small. The tap root in the samples examined soon tapered into a mere filament, which extended downward but about sixteen inches. The horizontal roots seemed to extend little more than a foot. The fibrous roots started chiefly from the tap-root, though a few had their origin near the base of the fleshy root. These extended both deep and shallow, some reaching to the surface of the ground, and others seeming to penerate the soil as deep as the tap-root.

Very little difference appeared either in the amount or distribution of the roots between the Long Red Altringham, and the French Forcing varieties.

In roots of beet and carrot set out last spring to produce seed, the leading roots penetrated the soil as far as in those grown from seed. The fibrous roots were, however, less developed.

The root system of the onion differs from that of most other garden plants. It is more concentrated. The roots seem to take complete possession of the soil for a small space, but extend but a short distance. In the samples examined, which were of the Blood Red variety, the roots extended but about ten inches in depth, and about the same distance horizontally. The greater part of the roots seemed to be beneath a circle eight inches in diameter, the stem of the plant being the center. There is no tap-root. The roots that start out from the base of the bulb are very numerous, and these give rise to very many branchlets. The latter, however, do not sub-divide, and are usually quite short.

In the cabbage, the root system is decidely less extensive than in the cauliflower. The plant examined was of the Very Early Etampes variety, and formed an excellent head. The roots were traced to a depth of about twenty inches, and a distance of eighteen inches on either side. The main root was quite thick for a depth of about six inches, below which it divided into many roots, which tapered for a short distance and then became fibrous, ceasing to taper. The fibrous roots in the upper layers of the soil were not numerous, and some appeared at a considerable depth.

It is quite probable that in the larger varieties of cabbage, the root system is more extensive than in the sample examined.

E. Lewis Sturtevant, *Director.*

HORSE-RADISH.

There is nothing that gives better relish to meats on the opening of spring than a preparation of horse-radish, that every farmer can enjoy fully as well as he can any vegetable that grows. This plant will grow upon any rich soil, although it will develop more satisfactorily if the soil is inclined to be moist. An excessive development of the root is what is desired, the higher degree of fertility the more satisfactory the result.

All that is reqired is to obtain a few of the fine roots, which may be planted in the soil by covering up to a little depth, and which will send up young sprouts that will develop good sized smooth roots.

It is not advisable to undertake to use the crowns of old roots, as the development from such is not as satisfactory. The tendency is to throw out a multitude of small roots that do not grow to a size convenient for grating. When once started, but little cultivation is required, for the reason that it is a plant that throws up very vigorous foliage, that shades the ground so fully as to prevent the growth of

anything near it. It does not require many plants to supply an ordinary family with what they would usually make use of during the season. We have found it to do well at the outlet of a sink drain, and also upon the sides of a ditch leading from the barn yard to a mowing lot.

Its preparation for use is very simple, although not very agreeable, if attempted in a warm room, in consequence of its aromatic properties. The roots should be dug as soon as the frost will admit in the spring, or at any other season if desired, (we prefer it in spring) and washed and scraped clean and white, and then passed over a grater until the whole is reduced to a pulp, which should be placed in open mouthed bottles, and thoroughly saturated with good cider vinegar. As a matter of taste, we much prefer to mix with it a little sugar before using. Its use with meats gives a gratifying relish, and so long as it can be procured so easily every farmer's family should have a full supply.—*New England Farmer.*

CYCLAMEN FOR THE WINDOW.

Florists cannot understand why the cyclamen has not been more extensively grown for window gardening. There is scarcely a plant used for this purpose that can excel it in any of the features so necessary for show. It has a pleasant fragrance, is graceful in bloom; the colors are various and often unique; the foliage is very attractive, and, to crown all, it is easily grown. Autumn is the proper time to sow the seeds, which should be thinly scattered over the surface of a pan of light, turfy, peaty soil. The covering must be carefully done, and should be accomplished by shaking a little light soil through a fine sieve, merely sufficient to partially protect the seed from the air. Water well at first, and never thereafter allow the seed to become dry; but, on the other hand, do not deluge the soil so as to rot the seeds. If the seeds are fresh, the young plants will soon make their appearance, with their little roundish leaves showing a tiny bulb at the base, when extra care must be exercised neither to rot nor yet to dry them up. When firmly established, prick them off singly into the smallest-sized pots, and shift them into larger sizes as the roots require more room. During summer they must not be allowed to dry entirely; but at that season the best situation is a cold frame, covered with a lath shade. The ensuing winter they will begin to bloom; but two-year-old plants give the most satisfaction, if well grown.

CYCLAMEN.

Cyclamens do not need a strong heat, nor will they thrive in a very low temperature; but, at the same time, extremes of either will not destroy the plants more readily than the majority of winter vegetation. All winter long they continuously throw up their slender stems, surmounted with delicate white, red and variegated nodding flowers, filling the surrounding air with their pleasant fragrance, as well as de-

lighting the owner for the little care one is obliged to bestow upon them.—*Farm and Fireside.*

TOMATOES.

N. Y. AGRICULTURAL EXPERIMENT STATION.

When the tomato was first known to our gardens, it was a rough ribbed fruit. It has been improved, until now we think that most people will agree that its smooth and regular form, together with the size, at least medium, are most important characters, and these together with earliness, enter into our judgment of what constitutes merit. The slight differences in color and flavour that appear in the numerous red varieties are, so far as family use is concerned, of but secondary importance, and we rarely find a variety so unprolific as to be condemned as not yielding a sufficient quantity for domestic supply.

In the Station garden we have grown nearly all varieties as purchased from seedsmen, and we are led to wonder why so many undesirable kinds are retained, as it surely costs no more to grow the fruit of the best than of the poorest sorts. We therefore assort our varieties as grown at the Station, into two lists, the first of which includes those which possess sufficient merit to make them worthy of cultivation ; the second list includes those which might as well in the future be dropped from consideration.

The *Cardinal*, a so-called new variety, producing large, bright scarlet fruit, which is usually nearly or quite smooth, but quite late in ripening.

The *Favorite*, (Livingston's Favorite) we have hitherto recommended. It is medium in season, and this we regard as its greatest fault.

The *New Red Apple* yields medium to large, very smooth fruits, which matured this season earlier than either of the above sorts.

The *Perfection* (Livingston's Perfection) produces medium to large, very deep red fruits, usually smooth, but often rough at the blossom end. In season about the same as the Favorite.

The *Paragon* yields very smooth, medium to small scarlet fruits which commenced ripening this year five days before the *Favorite* or *Perfection*.

The *Red Chief* yields bright scarlet fruits of medium size, usually smooth ; in season medium.

Rochester yields fruit of the largest size, of a deep red color, rather smooth upon the whole, although often rough about the stems. A late variety.

Tilden's New yields bright scarlet, small to medium fruits, usually very smooth.

The *Acme*, though faultless in form, has the fault of rotting badly in sections where tomatoes are subject to this disease. Its earliness, together with the remarkable smoothness of its fruit, will doubtless retain for it many friends. We are growing two sorts which are the same as the Acme ; the one, *Essex Early Hybrid*, the other, a variety, the seeds of which were said to have come from South America.

The Early Red Smooth, with us, seems to be the same as the *Extra Early Red*, and the *Early Round Red Smooth*. It has the merit of earliness. smoothness of fruit, and little tendency to rot. We rank this as one of the most desirable of sorts.

The *Mayflower* we have already recommended. This variety, however, still has the tendency to produce small fruits which we hope may disappear after a little longer selection. It is early, but with us, has not sustained its reputation as being one of the first earlies.

The *Boston Market*, produces medium to small fruits, usually very smooth, but only medium in season.

The *Alpha* is a very early variety, yielding fruit of medium size, quite smooth, but often inclining to roughness.

The *Trophy* bears fruit which varies much in size; sometimes so small as to be almost worthless, at others very large. In shape also it is quite variable, sometimes being very rough; in season intermediate.

The *Yellow Visitor* and *Golden Trophy* are of good size, fairly smooth, and are useful varieties to those who desire a yellow tomato.

Besides these standard varieties, there are several sorts which, though possessing little value for the table, have a certain value to the amateur as curiosities. Among these are the Apple, Pear, Cherry, Plum and Currant tomatoes.

The list that we offer of varieties that possess so few good qualities as to make them unworthy of cultivation where better varieties are to be had, is as follows:

President Garfield, which appears to be identical with the long since abandoned *Great Chihuahua*, is utterly worthless with us, for although the fruits are very large they are so late as to ripen only in favorable seasons, and so rough as to be of no value, even when ripe.

The *Arlington*, *Feejee Island*, *New Japanese*, *Orangefield*, *Read's Island Beauty*, *Red Valencia Cluster*, and *Howard*, have little to commend them as grown in the Station garden.

The *Large Yellow*, *Improved Large Yellow*, *New York Market*, *Precurser*, *Queen*, *Conqueror*, *Early York*, *Gen. Grant*, *Hubbard's Curled Leaf*, *Hundred Day*, *Lyman's Mammoth Cluster*, *Powell's Triumph*, *Large Red*, *Large Red Smooth Round*, *Hathway's Excelsior*, *Little Gem*, *Canada Victor*, *Blount's Champion Cluster*, and *Cook's Favorite* all possess some merit, but since we have so many better varieties, we do not regard them as worthy of culture.

The public will understand that these notes represent the experiences, as gained in the Station garden, of seeds purchased under the names given, from various seedsmen, but we have reason to believe that the seed was true to name, and represented the variety offered.

E. Lewis Sturtevant, *Director*.

PEACHES—WHEN RIPE.

Mr. T. V. Munson, of Denison, Texas, gives the following as the order of ripening of the various kinds of peaches now most sought after:—

Brice's Early, large, crimson.
Ashby's Early, medium, crimson.
Baker's Early May, large, crimson.
Hynes' Surprise, medium. crimson.
Waterloo, large crimson.
Gov. Garland, large, blush white.
Bowers' Early, large, blush white.
Alexander, medium, blush crimson.
Amsden, medium, crimson.
Wilder, medium, crimson.
Rivers' Early, large, blush white.
Hale's Early, large, crimson.
Yellow St. John, large, yellow.
Mountain Rose. large, crimson.
Amelia, very large, blush.
Cooledge's Favorite, large, blush.
Large Early York, large, blush.
Foster, very large, blush yellow.
Early Crawford, large, blush yellow.
Thurber, very large, blush white.
Reeves' Favorite, very large, blush yellow
Prince of Wales, very large, crimson.
Lord Palmerston, very large, blush white.
Great Eastern, immense, blush white.
Old Mixon, large, blush white.
Stump-the-world, very large, crimson white.
Late Crawford, very large, yellow.
Susquehanna, very large, yellow.
Cooper's Mammoth, immense, yellow.
Infant Wonder, very large, mottled yellow.
Silver Medal, very large, blush.
Druid Hill, very large, yellow.
Brandywine, very large, yellow.
Picquett's Late, very large, yellow.
Salway, very large, yellow.

ROSA RUGOSA.

Prof. J. L. Budd, writing to the *Prairie Farmer*, says: —"Four years ago, through the kindness of Prof. Sargent, of the Arnold Arboretum at Boston, we received a small plant bearing the above name. Two years after I noted, in the *College Quarterly*, the beauty of its large, full, distinctive, rose-colored flowers, followed by large, peculiar-shaped, highly-colored and edible fruit; and spoke of the rare beauty, through the season, of its profusion of dark, rich green leaves, plicated as perfectly as those of the *viburnum plicatum*. In addition I then said that such a distinctive and peculiarly hardy species should give rise—by seedling production and crossing—to a family of varieties of peculiar value to the West. At that time I shared the common belief that it came from Japan, and wondered that its foliage should so perfectly endure our hot, dry summers, and that its wood should endure our test winters quite as well as our wild species of the rose.

"Since that time I have had an opportunity for studying the trees and plants of the great "East plain" of Europe, and found the Rosa rugosa in public and private collections in Northeast Austria, Poland and over Russia, from the shores of the Baltic to points east of the Volga, where the rainfall does not exceed ten inches per annum. Nor was it confined to the single red form coming to us from Japan. The varieties differed in size and shape of the leaf, length and number of spines, size of bush, and above all in the size, color, and perfection of flower. The varieties known as "*Rosa rugosa flore pleno*" varied from half double to one as perfectly double as our best perpetuals.

At the botanical gardens on the Volga the opinion was expressed that the species was indigenous to North Bokhara, and the plains of Asia west of the Altai ranges. However this may be, it is, and has been for ages, a favorite species on the East plain of Europe, and we have the best reason for believing that its varieties will take leading rank over *our* great plains in the near future. I will only add that the interminable prairies north of the Carpathian Mountains, and the Caucasus in Europe, have many varieties of the rose, with thick coriaceous leaves, like the rugosa, not known in this country, and which do not seem to be known in South Europe.

RAISING EARLY POTATOES.

Early in June, *Dr. E. H. C. Goodwin* left at our office some beautiful specimens of Beauty of Hebron Potatoes, raised by him at Governor's Island, in New York bay. They were of marketable size and condition, and, at this season, something so remarkable that we were anxious to learn how they were raised. To an inquiry, the doctor obligingly replies.

"The Potatoes were planted in the open gronnd on March 29th, the thermometer between that date and April 1st falling as low as 25°. On April 8th the glass of the cold-pits was covered with ice, and the following day it snowed. The sprouts became visible above ground on April 16th, and on the 21st all were well up. The first digging was made on June 4th, and others occasionally till June 10th, with a total yield of over twenty bushels from a piece of ground fifty by twenty-five feet.

"Toward the end of February, I put seed Potatoes in a shallow basket and set them in a rather warm room (say 60°), with plenty of light. By the time the ground can be worked they have made short, thick, dark green shoots, with rootlets showing. They

are then cut to the proper size, dried or rolled in ashes, and planted with a pretty liberal application of ground bone guano in the furrows. Should the season be too backward to allow the ground to be worked at the time the Potatoes should be cut,—which is apparent by the withering of the tubers,—the sets are placed in shallow boxes, with a little soil sprinkled over them. When the ground is in proper condition, the sets are planted out, at which time they have sometimes made roots an inch long.

"If there is danger of severe frost after the vines have appeared above ground, I cover them with soil, which operation serves as a first hoeing at the same time; but a slight frost does not injure them. They are then worked and hilled in the usual way. The bugs are not likely to attack them, as the vines have made nearly their full growth before the larvæ make their appearance. To guard against frost, a mulching of straw might be applied, which need not be removed afterward, and, if heavy enough, would save all after-cultivation.

"Although I have tried this method only on a small piece of ground, I see no reason why market gardeners near large cities could not make it profitable on a larger scale."—*The American Garden.*

SMALL FRUITS TO JAPAN.

An opportunity was afforded a *Free Press* reporter yesterday of inspecting a consignment of small fruit plants which have been selected by Mr. Wm. Saunders, of this city, for the Japanese Government. The collection consisted of twenty-nine varieties in all, seven sorts of strawberries, ten of raspberries, three of blackberries, and nine of currants and gooseberries. The plants were carefully packed in damp moss and oiled paper, neatly done up in twenty-two packages, and were forwarded to-day by mail *via* San Francisco. The Japanese have none of these small fruits native to their country, but have lately introduced some varieties of strawberries which have succeeded well. They are anxious to obtain additional sorts of these and other small fruits. At the late meeting of the British Association in Montreal, Japan was represented by one of her most distinguished scientists, Prof. Dairoku Kikuchi, chief of the Tokio University; there was also present Mr. Arakowa, representing the Agricultural Department of Japan. From conversation with these gentlemen information was obtained in regard to the special wants of Japan in this direction, and arrangements made for supplying them. The plants have been selected with much care, and forwarded to Sen Tsuda, who is in charge of the Government Experimental Farm at Tokio, who will take care of them, and, if successful, propagate from them for distribution to other parts of the empire. In return Mr. Saunders is promised specimens of Japanese fruits, flowers and seeds of interesting ornamental shrubs and trees. This interchange of products will probably prove a benefit to both countries.—*London Free Press.*

A New Grain.—We should be glad if all our readers could see the nine plants at the Rural Grounds, which are hybrids between wheat and rye. The heads of one plant are very different from either of these grains. Should this cross produce a new grain as hardy and prolific as rye, giving flour of a better quality, it would prove a great acquisition. But we are not prone to count chickens before they are hatched. The new grain may prove inferior, in all essential particulars, to either parent. Meanwhile, it is certainly worthy of being recorded that the cross has been effected.—*Rural New Yorker.*

PRESERVING TIME.

Said Mr. Baldwin Apple
To Mrs. Bartlett Pear:
"You're growing very plump, madame,
And also very fair.

"And there is Mrs. Clingstone Peach,
So mellowed by the heat,
Upon my word she really looks
Quite good enough to eat.

"And all the Misses Crab-apple
Have blushed so rosy red,
That very soon the farmer's wife
To pluck them will be led.

"Just see the Isabellas,
They're growing so apace
That they really are beginning
To get purple in the face.

"Our happy time is over,
For Mrs. Green Gage Plum
Says she knows unto her sorrow
Preserving time has come.

"Yes," said Mrs. Bartlett Pear,
"Our day is almost o'er,
And soon shall we be smothering
In syrup by the score."

And before the month was ended,
The fruits that looked so fair
Had vanished from among the leaves,
And the trees were stripped and bare.

They were all of them in pickle,
Or in some dreadful scrape;
"I'm cider," sighed the Apple;
"I'm jelly," cried the Grape.

They were all in jars and bottles,
Upon the shelf arrayed;
And in their midst poor Mrs. Quince
Was turned to marmalade.

Nicholas.

ROSE CHESHUNT HYBRID.—We have here a specimen of this Rose, now in full bloom, on the roof of a house from which frost is excluded. I counted on it the other day between 80 and 90 fully expanded roses and about 200 buds, and we have cut about four or five dozen blooms off it already. The plant covers about 9 feet of roof, and is planted in a border, 9 inches wide and 3 feet long.—J. W. LONGFOOT, *Pull Court, Tewkesbury, Eng.*

MOORE'S EARLY GRAPE has given better satisfaction this season than heretofore. The clusters and berries have been larger, which would seem to indicate that it improves with age. It is one of the few that have been able to hold their foliage throughout this very trying season. In quality it is much like its parent, the Concord. It is hardly equal to the Worden or Cottage, but it is one of the few kinds that may be confidently relied on for fruit, no matter how precarious the season. Its earliness adds much to its value. Champion is earlier, but much inferior in quality.—E. WILLIAMS, *Montclair, N. J., in Rural New Yorker,*

STRAWBERRIES.—I tested the following varieties of strawberries this season: Bidwell, Sharpless, Downing, Crescent, Warren, Norman, Manchester, Big Bob and Cumberland. As to productiveness, they ranked thus: Crescent, Bidwell, Manchester, Downing, Cumberland, with not much difference between the others. I think the Warren was the best flavored berry. I was disappointed in the yield of the Manchester. Ripe berries were picked on the Bidwell, August 22nd, and there were then some green ones. I consider the Bidwell the best one in the bed. The new black grape August Giant mildews very badly with me. The vine is five years old, and I don't believe there is a bunch on it but what is mildewed.—O. F. FULLER, *Worcester Co., Mass., in N. E. Homestead.*

AMMONIA FOR FLOWERING PLANTS AND STRAWBERRY PLANTS.—A writer in London *Gardener's Chronicle* says: Last year I was induced to try an experiment in Chrysanthemum growing, and for this purpose purchased one pound of sulphate of ammonia, which I bottled and corked, as the ammonia evaporates very rapidly. I then selected four plants from my collection, putting them by themselves, gave them a teaspoonful of ammonia in a gallon of water twice a week. In a fortnight's time the result was most striking, for though I watered the others with liquid cow manure they looked lean when compared with the ammonia watered plants, whose leaves turned to a very dark green, which they carried to the edge of the pots until the flowers were cut. As a matter of course the flowers were splendid. The ammonia used is rather expensive, as I bought it from a chemist's shop; this year I intend getting agricultural ammonia, which is much cheaper. I have also tried it on strawberries, with the same satisfactory result, the crop being nearly double that of the others; it is very powerful, and requires to be used with caution.

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PRINTED AT THE STEAM PRESS ESTABLISHMENT OF COPP, CLARK CO., COLBORNE STREET, TORONTO.